DOCUMENT RESUME

ED 059 415 AA 000 819

AUTHOR	Wargo, Michael J.; And Others
TITLE	ESEA Title I: A Reanalysis and Synthesis of Evaluation Data from Fiscal Year 1965 Through 1970. Final Report.
INSTITUTION	American Institutes for Research in the Behavioral Sciences, Palo Alto, Calif.
SPONS AGENCY	Office of Program Planning and Evaluation (DHEW/OE), Washington, D.C.
REPORT NO	AIR-27400-3-72-FR
PUB DATE	Mar 72
CONTRACT	OEC-0-71-4766
NOTE	276p.
EDRS PRICE	MF-$0.65 HC-$9.87
DESCRIPTORS	Compensatory Education; *Compensatory Education Programs; *Disadvantaged Youth; Economically Disadvantaged; Educationally Disadvantaged; *Educational Needs; Evaluation Methods; Individual Needs; Low Income Groups; *Minority Groups; Performance Criteria; Program Effectiveness; *Program Evaluation; Resource Allocations; State Programs
IDENTIFIERS	*Elementary Secondary Education Act Title I

ABSTRACT

The major objective of this study was to evaluate the operation and impact of the national educational program for disadvantaged children authorized by ESEA Title I in terms of criteria set down by the original enacting legislation and elucidated in associated regulations. The program's administrative structure and authorizing legislation were reviewed; then management performance, resource allocation, and impact on participating children were evaluated. The primary findings of the study are summarized, as are the major conclusions and final recommendations. (CK)

ED 059 415

AIR-27400-3/72-FR

FINAL REPORT

Contract No. OEC-0-71-4766

ESEA TITLE I: A REANALYSIS AND SYNTHESIS OF EVALUATION DATA FROM FISCAL YEAR 1965 THROUGH 1970

Michael J. Wargo
G. Kasten Tallmadge
Debbra D. Michaels
Dewey Lipe
Sarah J. Morris

March 1972

AA 000 819

AMERICAN INSTITUTES FOR RESEARCH
Post Office Box 1113 / Palo Alto, California 94302

AIR-27400-3/72-FR

FINAL REPORT

Contract No. OEC-0-71-4766

ESEA TITLE I: A REANALYSIS AND SYNTHESIS OF EVALUATION DATA FROM FISCAL YEAR 1965 THROUGH 1970

Michael J. Wargo
G. Kasten Tallmadge
Debbra D. Michaels
Dewey Lipe
Sarah J. Morris

with the assistance of

Beverly M. Lauritz
Kathryn N. De Witt
Jean M. Wolman
Yungho Kim

American Institutes for Research
in the Behavioral Sciences

Palo Alto, California

March 1972

The research reported herein was performed pursuant to a contract with the Office of Education, U. S. Department of Health, Education, and Welfare. Contractors undertaking such projects under Government sponsorship are encouraged to express freely their professional judgment in the conduct of the project. Points of view or opinions stated do not, therefore, necessarily represent official Office of Education position or policy.

U. S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE
Office of Education/Office of Program Planning and Evaluation

TABLE OF CONTENTS

Page

LIST OF TABLES AND FIGURES iii

SUMMARY AND RECOMMENDATIONS 1
  Conclusions 9
  Recommendations 10

CHAPTER 1: INTRODUCTION 13
  Limitations 14
  Methods 15

CHAPTER 2: ADMINISTRATION, EVALUATION, AND DATA CHARACTERISTICS . 23
  Administration 23
  Evaluation 29
  Characteristics of Data Sources 32

CHAPTER 3: TITLE I MANAGEMENT PERFORMANCE 45
  The Washington Research Project 45
  HEW Audit Analysis 55
  Early Management Context 59
  Recent Management Evaluation 60
  Trends in Management Deficiencies 62
  Conclusions 65

CHAPTER 4: ESEA TITLE I CONTEXT 67
  Characteristics of the Nation's School-aged Children 68
  Characteristics of Title I Districts, Schools, Children, and Teachers 75

CHAPTER 5: NEEDS OF CHILDREN IN TITLE I SCHOOLS 97
  Needs as Measured by Standardized Achievement Tests 97
  Needs as Judged by the Teachers of Title I Children 104

TABLE OF CONTENTS, cont'd

Page

CHAPTER 6: RESOURCE ALLOCATION 117
National-level Resource Allocation 117
District-level Resource Allocation 140
Elementary School Resource Allocation 144

CHAPTER 7: IMPACT OF ESEA TITLE I ON PARTICIPATING CHILDREN . . 165
Noncognitive Benefits 166
Cognitive Benefits 168
Components of Success 183
Component Analysis of Newly Identified Successful Projects . . 187
Cost and Benefit Issues 190

BIBLIOGRAPHY 197

APPENDIX A
SCALE OF ADEQUACY AND VALIDITY AND INSTRUCTIONS FOR ITS USE . . 223

APPENDIX B
DESCRIPTIONS OF 41 SUCCESSFUL COMPENSATORY EDUCATION
PROJECTS WITH EXPLANATORY NOTES AND DEFINITIONS 231

LIST OF TABLES AND FIGURES

Table No.	Title	Page
2.1	Number of States Giving Breakdown of Target Population Served by Various Categories for FY 69 and FY 70	36
2.2	Number of States Providing Expenditures by Various Categories for FY 69 and FY 70	37
2.3	Number of States Providing Evaluation Data of Various Types for FY 69 and FY 70	39
2.4	Standardized Tests used by States as Determined from their FY 69 and FY 70 State Title I Annual Evaluation Reports	41
3.1	Results of HEW Audits of 40 States, FY 66-69	57
3.2	Results of HEW Audits of 37 States, FY 69-71	61
3.3	Status of Implementation of USOE Recommendations	64
4.1	U. S. School-aged Children (5-17), those Enrolled in Public/Nonpublic Schools and the Number of Economically Disadvantaged Children Used to Calculate Title I Authorizations for LEA's	69
4.2	Ethnic Distribution of Public School Students attending Schools with Various Concentrations of Minority Students in Fiscal Year 1969	71
4.3	Ethnic Distribution of School-aged Children (6-17 years) below the Poverty Line, Fiscal Year 1970	72
4.4	Ethnic Distribution of U. S. School-aged Children (6-13) below, at, and above Grade Level in October 1969	73
4.5	Extent of Reading Problems in the Continental United States, 1969	73
4.6	Estimated Elementary and Secondary School Expenditures in Billions of Current (1970) Dollars and Percent of Total by Source of Funds	74

LIST OF TABLES AND FIGURES, cont'd

Table No.	Title	Page
4.7	Concentration of Resident Low-income Children among Participating Districts Enrolling 300 or more Pupils, FY 69	76
4.8	Distribution of Participating Title I Districts Enrolling 300 or more Students and Number of School-aged Children from Low-income Families by Regular Per-pupil Expenditures	78
4.9	Ethnic Distribution of Title I Elementary School Children in Urban, Suburban, and Rural Schools, FY 68 and FY 69	79
4.10	Ethnic Distribution of Elementary School Students in Grades Two, Four, and Six in Segregated Classrooms	82
4.11	Number and Percent of Elementary School Students in Urban, Suburban, and Rural Title I Schools with Low, Moderate, and High Concentrations of Economically Disadvantaged Students (FY 68)	84
4.12	Percent of Pupils (FY 68) and Schools (FY 69) with Attendance Rates of 89 Percent or Less by Location of the Children and School	85
4.13	Percentage of Elementary School Students in Title I Schools during FY 68 and 69 by Classification of Disadvantagement and Ethnic Group .	89
4.14	Number and Percent of Students in Each Category of Disadvantagement by School Location, FY 68	91
4.15	Number and Percent of Pupils in Each Classification of Disadvantagement by School Concentration of Economically Disadvantaged during FY 68	93
4.16	Teachers Classified by Ethnic Group Membership and Urbanism of School	95
5.1	Percent of Pupils in Title I Schools Reading Below Grade Level by Various Criteria for Fiscal Years 1966 - 1969	98

LIST OF TABLES AND FIGURES, cont'd

Table No.	Title	Page
5.2	Schools Classified by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement	101
5.3	Schools Classified by Percent of Pupils with Families on Welfare and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement	102
5.4	Schools Classified by Percent of Black Pupils and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement	103
5.5	Schools Classified by Percent of Spanish-surnamed Pupils and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement	104
5.6	Fiscal Year 1969 Teacher Estimates of Pupil Critical Needs for Compensatory Programs	107
5.7	Pupils Classified by Poverty Level and by Expected School Attainment based on Ability	109
5.8	Pupils Classified by Poverty Level and Type of Critical Need	110
5.9	Pupils Classified by Race and by Expected School Attainment Based on Ability	112
5.10	Pupils Classified by Ethnic Group and by Type of Critical Need	113
5.11	Pupils Classified by Type of Disadvantagement and by Type of Critical Need	114
6.1	Local Educational Agency Title I Authorizations, Appropriations, and Expenditures for Fiscal Years 1966 through 1970	119
6.2	Percentage of Local Educational Agency Title I Expenditures by Account, Fiscal Years 1966 - 1970	121

LIST OF TABLES AND FIGURES, cont'd

Table No. Title Page

6.3 Percentage of Participants, Expenditures, and Per-pupil Costs for Local Educational Agency Programs (Regular and Summer, Public and Nonpublic, Grades Pre-K - 12) 122

6.4 Pupil Participation in Title I 124

6.5 Grade Band Distribution of Title I Participants . . . 128

6.6 Title I Participation by Pupils in Nonpublic Schools 129

6.7 Title I Expenditures Presented by State 133

6.8 Estimated Per-pupil Expenditure Presented by State . 136

6.9 Title I Expenditures for Instructional and Supportive Programs Presented by State 138

6.10 Number of Districts, Low-income Children, and Title I Allocation by Concentration of Low-income Children in the Districts 141

6.11 District Characteristics by Percent of Participating Pupils 142

6.12 Pupils Classified by Ethnic Group Membership and by Per-pupil Expenditure of Title I Funds 145

6.13 Pupils Classified by Per-participating-pupil Expenditure of Title I Funds and by Type of Disadvantagement 147

6.14 Districts Classified by Regular Per-pupil Expenditure and Basis for Allocating Title I Funds . 148

6.15 Number of Participants in Title I Academic Programs by Ethnic Group 150

6.16 Pupils Classified by Ethnic Group and by Participation in Special Academic Programs Funded by Title I and/or other Sources 153

LIST OF TABLES AND FIGURES, cont'd

Table No.	Title	Page
6.17	Pupils Classified by Type of Disadvantagement and by Participation in Special Academic Programs during FY 69	155
6.18	Pupils Classified by Type of Disadvantagement and by School Location	156
6.19	Pupils Classified by Total Number of Hours of Participation in All Academic Programs for the Disadvantaged and by Type of Disadvantagement	159
6.20	Pupils Classified by Ethnic Group and by Total Number of Hours of Participation in All Academic Programs for the Disadvantaged	160
6.21	Percent of Children in Grades Two, Four, and Six in Title I Elementary Schools with Critical Needs and the Percentage of Children who Participated in Various Programs, FY 69	162
6.22	Pupils Classified by Critical Needs for Ancillary Programs and Pupil Participation in those Programs, FY 69	163
7.1	Teachers' Ratings of Compensatory Academic Program Participants and Nonparticipants in Six Areas of Academic Proficiency, FY 69	169
7.2	Analyzable Standardized Reading Achievement Test Data for Assessing National-level Impact	171
7.3	Percentages of Participants and Nonparticipants Scoring below Grade Level on Reading Pretests and Posttests	172
7.4	Average Reading Residual Gain Scores in Months for Participants and Nonparticipants in Academic Compensatory Programs	173
7.5	Adequacy of Cognitive Benefit Evaluation Sample as Determined by the AIR Rating Scale	175

LIST OF TABLES AND FIGURES, cont'd

Table No.	Title	Page
7.6	Characteristics of Cognitive Benefit Data Reported by States with Adequate Evaluation Samples	176
7.7	Grade-equivalent and Gain Score Data Summarized across States with Adequate Evaluation Samples . . .	178
7.8	Comparison of the Components of Success Identified by Six Investigators	186
7.9	Presence of Previously Identified Components of Success in 21 More Recently Identified Successful Compensatory Education Projects	189
7.10	Statistical Evidence of the Relationship between Cost and Effectiveness in Reading Projects	192

Figure No.		
4.1	Ethnic group concentration of schools	81

SUMMARY AND RECOMMENDATIONS

During fiscal year 1970, 6.5 million (13.5 percent) of the approximately 48.2 million school-aged children in the continental United States were from families with incomes below the poverty line established by the Bureau of the Census. Significantly, 38.8 percent of all Black school-aged children were so classified while only 9.5 percent of all white children were considered poor by those standards. During fiscal year 1969, 20 percent of the public school enrollment consisted of minority group children -- 14.5 percent Black, 4.6 percent Spanish-surnamed, and 0.8 percent other minority group children. However, 76.6 percent of all Black and 54.7 percent of all Spanish-surnamed students were enrolled in schools with minority concentrations exceeding 49 percent, while 97.9 percent of all non-minority children attended schools with minority concentrations below 49 percent. Also, more Black (24.2 percent) than white (16.5 percent) children were achieving below grade level in one or more subjects and fewer Blacks (65.2 percent) than whites (74.0 percent) were at grade level. While about 14 percent of all elementary school children during that year had severe reading problems, 20 percent of all children from low-income families, and 25 percent of the students enrolled in large city schools had such problems. Clearly, many minority group children, children from low-income families, and children attending large city schools have special needs for compensatory education and related services.

In recognition of similar needs identified at an earlier date, Title I of the Elementary and Secondary Education Act (ESEA) of 1965 authorizes financial assistance to local educational agencies (LEA's) with high concentrations of economically disadvantaged children specifically for programs designed to meet the special needs of educationally deprived children. ESEA Title I is a categorical grant program that provides funds to state educational agencies (SEA's) to distribute to their eligible LEA's which, in turn, bear primary responsibility for designing and implementing local Title I projects. In their applications to state educational agencies, LEA's must provide assurances that they will (a) design projects for educationally needy children in areas impacted with children from low-income families, (b) conduct funded projects in accordance with Title I regulations, guidelines, and program criteria, and (c) provide annual evaluation reports to their state Title I office. States, in turn, are required to provide the U. S. Office of Education (USOE) assurances that they will (a) monitor LEA compliance with Title I regulations, guidelines, and program criteria, (b) furnish technical assistance to LEA's, and (c) submit annual statewide program evaluation reports to USOE. Acting on behalf of the U. S. Commissioner of Education, USOE is required to review state applications, determine state authorizations, allocate annual appropriations, and monitor, audit, and provide technical assistance to participating states. USOE is also legislatively required to evaluate the national impact of the program annually and to report its findings to Congress.

The major objective of this study was to evaluate the impact of ESEA Title I since its inception on the basis of reanalysis and synthesis of existing evaluation data derived primarily from local, state, and national evaluation studies. The program's operational context was reviewed and needs were identified; then management performance, resource allocation, and impact on participating children were evaluated. The primary findings of the study are summarized below, as are the major conclusions and final recommendations.

Operational Context

During fiscal year (FY) 69, the majority of all low-income children were enrolled in Title I schools, and 90 percent of them were concentrated in districts with low (under $425) to moderate ($425-624) regular per-pupil expenditures. Approximately 68 percent of all poor children were enrolled in 11.9 percent of the Title I participating districts which were characterized as large districts with medium to high concentrations of resident children from low-income families. Apparently, poor children tended to be enrolled in a relatively few large districts that had low to moderate regular per-pupil expenditures and high concentrations of resident low-income children.

During both FY 68 and FY 69, approximately 29 percent of the children enrolled in Title I elementary schools were from minority groups -- approximately 9 percent more than the nation's schools in general. About 22 percent of the enrollment were Black and another 7 percent were from other minority groups, while the corresponding percentages were 14.5 percent and 5.4 percent nationally. Elementary schools participating in the Title I program had higher concentrations of minority group children, especially Black children, than the nation's schools in general.

Within Title I elementary schools during FY 68, approximately 83 percent of all students were assigned to classrooms in which 90 percent or more of the children were of one race, either white or Black. Only about 17 percent of the children in Title I schools were in classrooms where the racial composition corresponded roughly to that of the total population of pupils in Title I schools and even fewer were in classrooms with a racial composition corresponding to national standards for integration. Further, although 67 percent of all children in Title I elementary schools were enrolled in classrooms with a 90 percent or greater concentration of Blacks, 70.5 percent of all Black children were in such classrooms while only 1.6 percent of other minority children and 0.2 percent of white children were in such classrooms. The extensive segregation reflected by those figures is partially due to the fact that minority and poor children tended to be ability-grouped by classroom while non-minority children, and children from more economically advantaged families, tended to be grouped by subject within classrooms.

Data from FY 68 regarding the concentration of children in Title I schools at various locations indicated that 22.4 percent of the children were concentrated in urban schools, 46.2 percent were in suburban schools, and 31.3 percent attended schools in rural areas. Although only 22.4 percent of all students in Title I schools attended urban area schools, 47.7 percent of the Black and 42.6 percent of other minority group children attended large city schools while only 12.6 percent of the white children attended such schools. A similar relationship was found with respect to poverty. Nearly 75 percent of all children attended schools with low concentrations of economically disadvantaged children, 16.1 percent were in moderate concentration schools, and 9.0 percent were in schools where more than 50 percent of the enrolled children were from poor families. Of the children attending those high concentration schools, however, 67.2 percent were attending high concentration schools in urban areas. Apparently, economically disadvantaged children as well as minority group children are concentrated in large city schools.

On the basis of teacher estimates of their pupils' educational prospects and family income, approximately 54 percent of the children enrolled in Title I elementary schools during FY 68 and FY 69 were classified as economically (36 percent), educationally (3.5 percent), or multiply (14 percent) disadvantaged. Ethnically, 87.3 percent of all Blacks and 81 percent of all Spanish-surnamed children were classified as disadvantaged while only 44.6 percent of the whites were so classified. In terms of subclassifications, minority group children were proportionately more concentrated than whites in the severe multiple (both educationally and economically disadvantaged) and severe economic categories of disadvantagement while non-minority children were more concentrated in the educational disadvantagement classification. Non-minority children were numerically but not proportionately more concentrated in moderate economic and moderate multiple disadvantagement categories. Severe multiple and severe economic disadvantagement are apparently minority group problems, educational disadvantagement without accompanying economic disadvantagement is primarily a non-minority group problem, and moderate multiple and moderate economic disadvantagement are problems common to both groups.

In terms of school location, approximately 29.7 percent of all children enrolled in suburban Title I elementary schools were classified as disadvantaged while 80.6 percent of the students in large cities, 66.5 percent in medium size cities, 53.6 percent in small cities, and 62.6 percent in rural area schools were considered by their teachers as disadvantaged. There was also a trend for the concentration of children in multiple and economic disadvantagement classifications to decrease as community size decreased. However, that trend reversed in rural areas which showed a pattern similar to large cities.

Although as mentioned above, the majority of the children in Title I elementary schools during FY 68 attended schools with low concentrations of poor children, most disadvantaged children -- especially those classified as severely so -- attended schools with moderate and high concentrations of poor children. Clearly, disadvantagement, regardless of type, is associated with poverty and poverty is concentrated in urban and rural areas.

Needs of Children in Title I Schools

Standardized achievement test data collected on large but unfortunately unrepresentative samples of children in Title I elementary schools since FY 66 suggest that a significantly higher proportion of children in those schools suffer from reading, mathematics, and language deficiencies than the proportion of children that suffer such deficiencies in the nation's schools in general. Also, there was some evidence over the years that more children in Title I schools fall below grade level at each successive grade tested. It appears that schools selected for Title I participation have relatively high concentrations of children with one or more academic deficiencies.

Both standardized test results and teacher judgments of student critical needs over the years suggest that the major academic problem in Title I schools is reading retardation. Analysis of that problem during FY 69 indicated approximately 20 percent of all Title I elementary schools had 50 percent or more students reading more than one grade level below the national norm. Analysis also indicated that proportionately more urban schools had high concentrations of poor readers than rural schools while suburban schools were least afflicted by that problem. Further, the higher the schools' concentration of poor and/or minority group children, the higher was their concentration of poor readers.

Specific critical need information was obtained from Title I elementary schools during FY 69. On the basis of teacher estimates of their pupils' "critical needs," 43 percent of the children in Title I elementary schools were judged to have a critical need for remedial reading instruction, 37 percent needed remedial instruction in language, and another 37 percent required remedial mathematics instruction. Twenty-seven percent were felt to require cultural enrichment while 11 percent needed health services, 9.5 percent psychological counseling, 6.5 percent food services, and 5.4 percent special educational services. Thirty-four percent of the children in those schools were judged to have no critical needs in those areas. When teachers were asked to judge the educational prospects of poor and minority group children, such children were found to have lower prospects for secondary and higher education than their more advantaged and non-minority group peers. Similarly, a higher proportion of poor and minority group children had critical needs in one or more of the above-listed areas than did non-economically disadvantaged and non-minority group children.

Comparison of the number of Title I elementary school children who were judged by their teachers to be in one of the gross categories of disadvantagement (severe or moderate economic, multiple, or educational disadvantagement) with the number considered to have one or more of the above-described critical needs revealed that although there was some relationship between the gross classification and identified critical needs, there were significant differences. Many children classified as nondisadvantaged were judged to have one or more specific critical needs and conversely, many children in the disadvantaged classifications were judged to have no critical needs. While teachers' estimates of specific critical needs are probably more accurate than their estimates of their pupils' family income and educational prospects, the disparity between those two sets of data can be taken as indicative of the lack of adequate and objective bases for needs assessment.

Management Performance

Analysis of Title I management reviews conducted by USOE and the Department of Health, Education, and Welfare (HEW) led to the conclusion that the ESEA Title I program has not yet been implemented in full compliance with existing regulations, guidelines, and program criteria. HEW audits of 40 states conducted between FY 66 and FY 69, for example, indicated that states have failed to adequately review LEA project applications, monitor and audit LEA activities, and insure proper financial control of Title I expenditures. More specifically, state audits of LEA's were of limited scope in 24 states and too infrequent in 11. Nine states failed to require adequate project justification from their LEA's and 32 used, or allowed their LEA's to use, improper accounting procedures and internal fiscal controls. Further, LEA's were permitted to use Title I funds as general school aid in 7 states; to supplant (replace) other federal, state, and local funds in 14 states; and to divert funds for purposes unrelated to Title I in 18 states. Twenty-one states failed to ensure that their LEA's concentrated their resources on the most academically needy children. Poor equipment management was also observed as was a failure to obtain community and parent involvement in planning, implementation, and evaluation of projects. Similar and other violations of Title I regulations, guidelines, and program criteria were identified by independent USOE audits in roughly equivalent frequencies.

Early violations of the regulations might have been due to the sheer size of the program, its uniqueness, and its sudden enactment in 1965. Also identified during those early years was a failure at all administrative levels to accept management responsibility for the program, negligence in monitoring and enforcing compliance with regulations and guidelines, a fear of domination by upper levels of the administrative structure, suspicion of encroachment of authority, uncertain and insufficient funding, and an overconcern with tracking the Title I dollar. The latest management performance evaluation suggests that many of those conditions continue to exist. As of June 1971, 37 states and many of their LEA's were cited by HEW to be still in violation of Title I regulations, guidelines, and program criteria.

Resource Allocation

Approximately 5.5 billion dollars were appropriated for LEA Title I projects between FY 66 and FY 70, slightly more than a billion dollars each fiscal year. However, funds actually appropriated by Congress since FY 67 have regularly decreased to a low in FY 69 and FY 70 of approximately 50 percent of the authorization as determined by formula. Although the need for those funds has increased, the proportion of authorized funds actually appropriated has decreased. Congress has regularly failed to appropriate the full amounts that LEA's are authorized to receive by enacting legislation.

Nationally, participation in LEA projects has dropped from a high of approximately 10.5 million children in FY 68 to a low of 7.4 million in FY 70. During the early years of increasing participation, Title I per-pupil expenditures decreased and in later years, when participation decreased, Title I per-pupil expenditures increased. During the early years of increased participation, Title I per-pupil expenditures dropped from approximately $117 per pupil to $102 per pupil, while in FY 69 and FY 70 those expenditures increased to $127 and $147 respectively. Those per-pupil expenditures are considerably below the average per-pupil expenditures suggested by Title I guidelines.

State Title I Annual Evaluation Reports indicate that there was considerable variation across states in terms of both expenditures and participation. During FY 69 and 70, for example, participation figures across states ranged from 1,329 to 777,634 children and expenditures ranged from $803,100 to $70,093,000. During FY 69, a large but not nationally representative sample of states reported a range of regular per-pupil expenditures from $462 to $852 and those same states reported Title I per-pupil expenditures ranging between $58 and $410. A strong positive relationship between regular and Title I per-pupil expenditures was observed -- high regular expenditure states received and expended more Title I funds per pupil than low regular expenditure states.

On the basis of a representative sample of Title I districts, it was concluded that in FY 69 19 percent of all public school children in kindergarten through grade twelve participated in one or more Title I projects. However, most low-income children (69.1 percent) and Title I participants were concentrated in low regular expenditure districts that received disproportionately low allocations of Title I funds, served a disproportionately large number of children, and had the lowest Title I per-pupil expenditures. Apparently, low expenditure districts have the greatest need for funds, receive less funds than warranted by their need, and serve children at the lowest Title I per-pupil expenditure. There was also some evidence that low Title I per-pupil expenditure districts had higher concentrations of severely disadvantaged children than did higher expenditure districts.

From FY 68 to FY 69, participation in compensatory academic programs dropped from 35 percent of the elementary school children in Title I schools to 19.8 percent, while the proportion of disadvantaged children served in those schools increased from 70 percent to 74.4 percent. During those years there appeared to be a concentration of academic programs on disadvantaged children, minority group children, and children in rural and urban schools; however, during FY 68 the children served within those categories were not those children with the greatest need. During FY 69, compensatory academic programs were better concentrated on those children with the most critical needs within the various categories of disadvantagement defined by teachers' estimates of their pupils' educational prospects and family income.

In terms of intensity of participation in academic programs, during both FY 68 and 69 the majority of elementary school children participating in academic programs for disadvantaged children in Title I elementary schools received less than one hour per day of compensatory instruction. However, according to FY 69 data there was some attempt to concentrate the intensity of instruction on minority group children and on those disadvantaged children with the greatest educational need.

FY 66 through 69 data relevant to the relationship between teacher-identified critical needs and the allocation of compensatory services indicated that the majority of children in Title I elementary schools with specific critical needs for academic services failed to receive such services and that participation in health and food services programs greatly exceeded the identified need for such programs. While there appeared to be a failure to concentrate health and food services on the most needy during FY 69, concentration was somewhat more appropriate for pupil-personnel, special education, and cultural enrichment programs. All supportive (nonacademic) programs, however, failed to serve a relatively high percentage of children with critical needs in the respective areas and, in all cases, the number of children served without critical needs exceeded those with pressing needs who were served. Obviously, the resource allocation process, especially in terms of assignment of needy students to appropriate compensatory programs, is grossly deficient.

Impact on Participating Children

As described above, whatever benefits may have resulted from Title I supportive services were not accrued by those children most in need of those services. The situation in terms of personal and social impact was somewhat better. On the basis of teacher judgments of improvement in several personal and social aspects of behavior, greater improvement occurred among compensatory program participants than among nonparticipants in areas such as self-concept, educational aspirations, relationships with peers, and attentiveness. However, the differences favoring participants over nonparticipants were quite small, expecially when considered in terms of participants' greater potential for improvement.

In regard to cognitive benefits accruing to participating children, teachers reported in FY 69 that more participating than nonparticipating children improved in reading, math, understanding of written and oral instruction, oral expression, and independent learning. Again, however, all of the differences favoring participants were small. Also, a large proportion of participants, between 22 and 36 percent, were rated by their teachers as not having benefited from compensatory programs.

Two large efforts were made to obtain nationally representative standardized achievement test data on children in Title I elementary schools -- one in FY 68 and the other during FY 69. Both attempts failed. Data that were obtained, though not representative nationally, suggest that children in Title I elementary schools with the greatest reading deficits were selected for remedial reading programs. However, participants gained less during the period of instruction than nonparticipants and consequently fell further behind their nonparticipating peers and national norms. Also, the intensity of remedial reading instruction they received seemed to have little effect on participants' reading gains. While participating children may have been somewhat better off than they would have been without the program, no evidence could be found at the national level to support that hypothesis.

On the basis of the only 7 FY 69 and FY 70 State Title I Annual Evaluation Reports that provided at least "possibly representative" cognitive achievement data, it appears that the Title I program has had some success within several states. The mean average monthly gain across those 7 states at grades two, four, and six was approximately 1.0 -- a growth rate significantly higher than would normally be expected for disadvantaged children and sufficient to arrest achievement retardation but not large enough, even if prolonged, to bring those children to grade level. Gains sufficient to achieve that objective were, however, identified at the local project level. A review of 91 State Title I Annual Evaluation Reports identified 5 states which reported data on a total of 55 "exemplary" local projects that produced grade-equivalent gains greater than month-for-month.

In addition to those 55 exemplary projects identified in state reports, a series of studies conducted by the American Institutes for Research between March 1968 and July 1971 identified 41 local compensatory education projects that produced reliably measured cognitive benefits. Analysis of those projects indicated that approximately half of them were supported by Title I funds and that most of them served minority children, were located in urban areas, focused on elementary grades, and had sound cognitive evaluations indicating statistically and educationally significant gains. Apparently, as the unit of analysis is narrowed from the nation as a whole to states and then to local projects, more signs of positive impact on participating children can be identified.

In a 1968 study, AIR, through a comparative analysis of 18 successful and 25 matched but unsuccessful projects, identified the following six components that appeared to be associated with success: (a) clearly stated objectives and/or careful planning, (b) teacher training in methods of the project, (c) small group or individualized instruction, (d) directly relevant instruction, (e) high treatment intensity, and (f) active parental involvement. Analysis of 21 successful projects identified since that study indicated that the majority of them incorporated at least four of those six components. Review of five other studies concerned with identification of successful project components also indicated general agreement with respect to the AIR-identified components of success. A minimum of two research teams reported identifying each component in the programs that they considered successful. Clearly, those six components are present in many successful projects, and they have been found to discriminate between matched successful and unsuccessful endeavors.

The issue of Title I project cost-effectiveness was addressed in 53 State Title I Annual Evaluation Reports. Review of the information presented indicated that nearly all (32 of 38) of those reports that addressed the cost-effectiveness question on a purely subjective basis concluded that there was a positive relationship between expenditures and benefits. On the other hand, five of the six reports that presented empirical evidence to support their conclusion found no positive relationship between Title I project expenditures and cognitive benefits. Inconclusive evidence was also found in those state reports in regard to the issue of the minimum Title I supplemental expenditure that can be expected to result in some measure of success. In addition to inadequate data bases, most states failed to consider differences in treatment variables and regular per-pupil expenditures in their analyses. Each of those failures alone would be sufficient to prevent resolution of the cost-effectiveness and minimum expenditure issues.

Conclusions

The national compensatory education program enacted by Title I of the Elementary and Secondary Education Act of 1965 was evaluated in terms of operational compliance to enacting legislation and associated regulations, resource allocation, and impact on participating children. National-level data indicated that (a) most states and many LEA's have failed to implement their programs in full compliance with existing regulations, guidelines, and program criteria; (b) funds and services have been under allocated for academic programs, over allocated for supportive (non-academic) services, and misallocated to children without critical needs for compensatory services; (c) there is little evidence at the national level that the program has had any positive impact on eligible and participating children. Data from state and local levels do, however, provide evidence that some Title I projects have had a significant positive impact on participating children. However, little evidence could be found at the state or local levels that countered the conclusions regarding general non-compliance to regulations and failure in resource allocations.

The national-level data that indicate a disregard for Title I regulations, guidelines, and program criteria suggest that ESEA Title I has never been implemented nationally as intended by Congress. Consequently, the failures in regard to resource allocation and impact cannot be directly attributed to the enacting legislation. Rather, those failures must be attributed to a program that was modeled after ESEA Title I but has never been implemented in full compliance with existing regulations, guidelines, and program criteria. Full compliance to enacting legislation will be required before the national compensatory education program intended by ESEA Title I can be fairly assessed.

Recommendations

The findings and conclusions summarized above and the supporting data detailed in the following chapters suggest several means for improving the operation and impact of ESEA Title I. Unfortunately, due to the broad scope of this study, few aspects of the existing program could be studied in depth. Nevertheless, the reanalysis and synthesis of evaluation data summarized in this report resulted in the following recommendations for USOE and Congressional consideration.

Administration and Evaluation

1. Unlike the current practice, only empirically determined, representative, reliable, and valid data should be included in federal, state, and local evaluation reports.

2. The evaluation procedures and reporting formats at all levels of administration should be standardized to permit data comparisons within and across both reporting levels and fiscal years.

3. Minimum standardized accounting and fiscal reporting procedures should be developed and used at all levels of the Title I administration structure to enable more efficient monitoring and evaluation of the program.

4. The Title I management evaluation teams from USOE's Division of State Agency Cooperation and Division of Compensatory Education should be integrated into one Title I management and fiscal evaluation team that can take advantage of the unique talents of each division to audit states and LEA's comprehensively without the currently existing duplication of effort. Also, better lines of communication should be established between the HEW and USOE Title I auditors.

5. Existing regulations, guidelines, and program criteria should be summarized in one document and distributed to states and participating LEA's.

6. More intensive and extensive technical assistance should be provided to states in regard to the specific areas in which they are found to be in violation of regulations and guidelines.

7. An incentive and reward system should be established to encourage state and local agency compliance with existing regulations, guidelines, and program criteria.

8. States and LEA's should receive detailed and timely feedback in regard to their fiscal and evaluation reports.

9. Specific and readable criteria and guidelines should be developed and disseminated to states regarding (a) local needs assessment, (b) the interrelation between the program and desegregation activities, (c) other sources of federal funds that should not be supplanted by Title I funds but used to supplement Title I-supported projects, and (d) prevention of the use of Title I funds to equalize facilities and services across and within districts.

10. State-level monitoring and technical assistance models should be developed and states should be encouraged to replicate them locally.

11. States should receive a greater proportion of their LEA allocation for administration of the program.

12. USOE should increase its Title I staff from the current 120 to a number of qualified specialists that is more commensurate with the size of USOE's Title I administrative responsibilities.

Resource Allocation

1. The funding authorization formula contained in ESEA Title I legislation was set up on the basis of assessed needs. Allocations should, therefore, equal authorizations if there is to be a reasonable expectation that the program will achieve its objectives.

2. Title I funds allocation should be based upon the number of economically disadvantaged children within a district and the financial status of that district. Proportionately more funds should be allocated to poor districts and schools.

3. Urban and rural schools that have the highest concentrations of poor and the greatest economic need should receive proportionately more Title I funds than suburban schools.

4. Local needs assessment activities should be based upon empirically derived data when possible. When estimates or judgments are required, they should be made by specialists in the area of need estimation -- educational needs should be estimated by teachers, health needs by health personnel, and social/economic needs by qualified specialists in those areas.

5. More emphasis should be directed at providing academic programs and supportive services to those children with the most critical needs in those areas.

6. Life support and other nonacademic services should be provided by other federal funds and the emphasis of Title I programs should be on provision of compensatory reading, language arts, and mathematics programs -- those areas where the children have the most critical needs.

7. Participation intensity in compensatory education programs should increase significantly from the current average of approximately one hour per day.

8. Local programs should provide services and service intensity in proportion to the needs of their children.

Impact

1. Minimum standards and procedures should be established for achievement testing for both needs assessment and evaluation.

2. An incentive and reward system should be developed to encourage improved local and state evaluations and evaluation reports.

3. Although a higher proportion of resources are allocated at lower grade levels under the assumption that they will do the most good at that level, disadvantaged children at upper grade levels who have even greater educational needs should not be neglected.

4. Successful state and local projects should be regularly identified, described, and their descriptions should be disseminated to states and LEA's for use as replication models.

5. States and LEA's should be required to evaluate their programs annually in terms of some standardized cost-effectiveness procedure and they should be encouraged to use that information to eliminate unsuccessful and to replicate successful projects. USOE should provide them with accounting, benefit evaluation, and cost-effectiveness analysis guidelines to encourage such analyses.

6. Unless and until a reliable relationship can be demonstrated between per-pupil expenditures and program outcomes, Title I services should not be denied to eligible children on the basis of arbitrarily established minimum per-pupil expenditure guidelines which may themselves defeat the development of cost-effective projects.

7. Rather than a minimum, a maximum per-pupil Title I expenditure should be established to eliminate expensive programs that deny services to many deserving children and that are often not cost-effective. Also, a maximum expenditure level may encourage attempts to develop more cost-effective projects.

8. A study should be undertaken to compare a set of successful projects with low per-pupil expenditures to a matched set of successful but high expenditure projects to determine ways of reducing costs while maintaining effectiveness.

CHAPTER 1: INTRODUCTION

This report represents a concerted effort to evaluate the operation and impact of the national education program for disadvantaged children authorized in 1965 by Title I of the Elementary and Secondary Education Act (ESEA). The primary objective of that program is to provide financial assistance to local school systems with high concentrations of poor children so that they may provide educational and related programs designed to meet the special needs of disadvantaged children. As required in its enacting legislation, ESEA Title I has been evaluated annually at the national, state, and local levels. Prior to this report, however, the program has never been comprehensively evaluated over a period greater than one fiscal or academic year.

The major objective of this study was to evaluate ESEA Title I since its inception in 1965 in terms of criteria set down by the original enacting legislation and elucidated in associated regulations. First, the program's administrative structure and authorizing legislation were reviewed (Chapter 2). Then program management performance at the national, state, and local levels was compared to that prescribed by the enacting legislation and associated regulations (Chapter 3). The product of that evaluation highlights the differences between intended and actual management performance and suggests management and legislative weaknesses that directly affect the efficiency of the program's resource allocation and its impact on participating children.

Before the program's resource allocation could be evaluated, it was necessary to examine the resources that were available, the context in which the program operated (Chapter 4), and the needs of children within eligible schools (Chapter 5). Then the allocation of funds and services to participating children was evaluated (Chapter 6). The results of both that and the management performance evaluation provided background information that was necessary for adequate interpretation of the impact of the program on participating children.

Cognitive and personal-social impact on participating children were evaluated from fiscal year (FY) 1965, the first year of operation, to FY 70, the last year for which data were available. In addition to evaluation of impact at national, state, and local levels, successful local projects were analyzed to determine what instructional components were associated with success. The issues of minimum expenditures required for success and cost-effectiveness were also addressed (Chapter 7). On the basis of those analyses, conclusions were drawn and recommendations for improvement were made where appropriate.

The results and conclusions of this study were influenced by certain limitations imposed upon its conduct and the methods used throughout the evaluation. The major methods and limitations that directly or indirectly influence the conclusions reached and recommendations made in this report are summarized in the following paragraphs. They are discussed here to provide the reader with some understanding of the complexities faced during the evaluation process.

Limitations

There were several limitations imposed upon the conduct of this study that directly influenced the content of this report. Some of those limitations were planned and concerned the scope, methods, and duration of the research. Others were unanticipated and resulted from the mechanics of Title I operation and the characteristics of the data sources available. Whether anticipated or not, all the limitations were somewhat interrelated and affected the content of this report. The causes, interrelationships, and effects of each of those limitations are discussed below.

The first planned limitation was one of scope. Title I funds are allocated primarily for local educational agency (LEA) compensatory education programs; however, a relatively small proportion of the annual allocation is distributed to states for eligible institutionalized children and children from migratory farm worker families that fail to receive Title I services in local schools. The state-run programs for those children are relatively small compared to all LEA projects, and they are quite heterogeneous both in terms of the services provided and children served. Because of the distinct differences between those state-run programs and the more homogeneous LEA projects, separate evaluations were deemed necessary. By agreement with the sponsoring agency, this study focuses on the national and statewide impact of locally-run projects and leaves the evaluation of state-run programs for later study. The results, conclusions, and recommendations of this study are therefore restricted to local educational agency Title I projects, unless otherwise stated.

The second planned limitation affected the methods and procedures of the study. The U. S. Office of Education (USOE) requested that this study be limited to review and analysis of existing evaluation data. As a result of that request, this study suffers from many of the limitations inherent in the earlier work upon which it is based. Also, since all existing data were reanalyzed and reinterpreted, the conclusions reached may or may not agree with those made by the original authors. The reader is therefore reminded that although the data reported here are derived from the sources referenced, the conclusions reached are those based upon reanalysis and are solely the responsibility of the authors of this report.

The third planned limitation imposed on this study related to its duration. Of the hundreds of studies listed in the bibliography, this study had the broadest scope and one of the shortest durations. USOE requested that this study be completed in a period not to exceed six calendar months. That limitation was severe considering the fact that some of the most relevant data needed for program evaluation were not available at the start of the effort and could not be acquired until well into the fourth month of the project. Nevertheless, every attempt was made to provide as comprehensive an evaluation of the program as was possible within that period.

The final and somewhat unanticipated limitation on this study was imposed by the actual mechanics of program operation and the resulting characteristics of available evaluation data. Although ESEA Title I is the largest federal educational program for disadvantaged children, other federal, state, and local sources provide local educational agencies with funds for similar programs. Not all local compensatory education projects are totally or even partially funded by the Title I program and participants in such projects usually participate in the regular school and other compensatory projects. Consequently, this evaluation, as was the case with all previous evaluations, found it impossible to partial out Title I benefits from those resulting from regular school or other compensatory program participation. Because of that limitation, this report was required to consider any project that was even partially funded by Title I funds, a Title I project; and any participant in such a project, regardless of his level of participation or his participation in other programs, a Title I participant.

Methods

The data acquisition procedures used during the conduct of this study were common to all three levels of evaluation data reviewed -- local, statewide, and national. The methods and procedures used for data analysis, however, varied with the characteristics of the data sources which, in turn, were related to the three levels of evaluation. The following paragraphs, therefore, describe the data acquisition process across the three levels of evaluation and the methods of analysis at each evaluation level respectively. Only data acquisition and methods are discussed here. The Title I program evaluation structure as well as the characteristics of the data sources obtained from various levels of that structure are discussed in the following chapter along with program administration.

Data Acquisition

The major data sources searched for information relevant to this evaluation included the U. S. Office of Education-supported Educational Resources Information Center, Research and Development Centers, and Regional Education Laboratories. In addition to those sources, the libraries of the Office of the Assistant Secretary for Planning and Evaluation within the U. S. Department of Health, Education, and Welfare (HEW), USOE's Division of Compensatory Education, and the American Institutes for Research (AIR) were searched. Other information was obtained by interviews with USOE and HEW personnel, and several professionals outside those organizations who had previously evaluated or were currently evaluating some aspect of the Title I program. The methods used to obtain information from each of those sources are discussed below.

The Educational Resources Information Center (ERIC) is a national network that acquires, abstracts, indexes, stores, retrieves, and disseminates educational research reports and program descriptions. The computer-based storage and retrieval system maintained at the Center's San Francisco Regional Office was searched for all documents relevant to evaluation of the Title I program at the national and state levels. Identified documents were reviewed and those that appeared to be directly relevant were ordered from the system's dissemination branch.

USOE-supported, university-based Research and Development Centers were established in 1965 to determine information needs for educational improvement, develop rational educational practices, and solve pressing educational problems. In 1965, Title IV of the Elementary and Secondary Education Act authorized a complementary national network of Regional Education Laboratories to fill the engineering role between research findings and classroom implementation. Since most of the Research and Development Centers and the Regional Educational Laboratories at one time or another have been concerned with the Title I program or state and local Title I projects, they were all contacted by mail for information. The mail requests summarized this project's objectives, indicated the importance of the study to USOE, pointed out the time limitation on the endeavor, and then requested relevant data. All leads were reviewed and relevant information was set aside for later in-depth analysis.

The library in the Office of the Assistant Secretary for Planning and Evaluation within HEW had one of the most complete sources of Title I information available. With the assistance of personnel from that office, the holdings were reviewed and the most relevant documents were reproduced or borrowed. The Assistant Secretary's Office was particularly helpful in providing the research team with a collection of State Title I Annual Evaluation Reports. Other documents obtained from the Office included USOE and HEW conducted or supported evaluations of the program.

USOE's Division of Compensatory Education was quite helpful in providing current unpublished, but official, data on program operations. Many individuals within the Division were also interviewed and periodically contacted for clarification of apparently unresolved issues. The Division's library holdings were also often tapped to fill gaps in existing annual evaluation reports at the national and state levels.

As a result of a series of four studies conducted by AIR concerned with the identification and description of successful compensatory education projects, the AIR library contains a large number of Title I-related state program and local project evaluations. Those reports were reviewed and the most relevant to the project were set aside for later in-depth analysis. The AIR library was found to be the most extensive single source for local project evaluations available.

The final information sources tapped were various professional personnel within and outside HEW and USOE. In addition to providing the major source for national and state level evaluations, HEW through its Audit Agency provided extensive data on fiscal and management audits of state Title I programs and their local projects. USOE's Management Evaluation Division provided some related information concerning the settlement of state and local management deficiencies identified by HEW auditors. Other personnel within the Bureau of Elementary and Secondary Education and the Office of Program Planning and Evaluation also provided needed assistance and guidance to the project team. They were particularly helpful in identifying and obtaining relevant documents and in suggesting other professional personnel to interview.

The final product of the document acquisition effort is the bibliography of this report which is thought to be the most extensive Title I and Title I-related bibliography in existence. All of the documents that appear in the bibliography were reviewed at some level, and those that were found relevant to the study's objectives were given an in-depth review. All listed reports influenced the thinking of the project team; however, only those that provided data directly related to the study's objectives are referenced in the text.

National-level Data Analysis

All evaluation endeavors that attempted to collect data which were representative of the nation were classified as national-level data sources regardless of how the information was compiled. As documents containing national-level data were acquired, they were screened and classified into topic areas relating to the main objectives of the study. Senior staff members then examined each document and, in those cases where the data within those documents were determined to be directly relevant to the study, a short report summary was prepared. Reports were summarized in terms of their objectives, methods, results, conclusions, and recommendations. Also, the reviewers made judgments as to the representativeness, adequacy, and validity of the data reported. After the reports were summarized, they were recategorized, if necessary, into new topic areas.

On the basis of those reviews, all documents that reported data which appeared to be representative of the nation were set aside for a more detailed analysis. Data sources that appeared to use similar methods and/or reported data annually were analyzed to determine the adequacy of their methods and the types of data that they provided. After those sources were so grouped and reviewed, a final content analysis was conducted to determine what data and data formats were common across reports and program operation years. One of the greatest difficulties encountered during this analysis was reconciling the many inconsistencies which were found between reports. Many of the identified data inconsistencies were resolved on the basis of interviews with USOE personnel; however, many remained unresolved. Except as specifically noted in the text, only those data that were determined to be consistent within and across reports and fiscal years were considered for inclusion in this report.

The next data analysis step consisted of a final review of all data that passed through earlier screenings. The objective of that final review was to determine the specific classifications of data and units of analysis that were common across reports. The most common units of analysis were found to be school districts, schools, projects, and pupils. In general, most data that were reported were classified as population, expenditure, or impact data and interrelations thereof. Every possible cross classification of those characteristics across each unit of analysis was identified, and similar data were sought for all fiscal years from 1965 to the present.

The final step in analysis consisted of summarizing those data that survived the screening process. To accomplish across-year summaries, most data had to be manipulated, retabulated, collapsed across categories, or reanalyzed. Consequently, few of the resulting data summaries that appear in this report resemble the sources from which they were derived. The characteristics of data sources reviewed are summarized in the following chapter, and the results of the analysis are detailed throughout the report.

State- and Local-level Data Analysis

The major sources for state-level and local-level evaluation data were the annual reports prepared by the Title I offices at both those levels. Participating local educational agencies are required to conduct annual evaluations of their local school projects and provide a summary report to their state's Title I coordinator. States in turn summarize those LEA reports and provide a State Title I Annual Evaluation Report to the U. S. Commissioner of Education. This study reviewed all the State Title I Annual Evaluation Reports that were available for FY 69 and FY 70. A total of 91 state reports, 46 for FY 69 and 45 for FY 70, were obtained and reviewed as described in the following paragraphs.

The primary objective of the state report review was to identify, extract, and summarize data relevant to the goals of the evaluation. Data found to be relevant, representative, apparently valid, and common across some aggregate of states were subjected to analysis and reported in an appropriate chapter of this report. The procedures for state report review included the development and use of a Content Analysis Checklist, a key policy issue guide, and a Data Adequacy and Validity Rating Scale. A description of the checklist, guide, and rating scale is provided below along with discussion of their use.

As an aid in the identification of relevant data in the state reports, a Content Analysis Checklist was developed. The checklist consisted of three major sections dealing respectively with the population served, expenditures, and cognitive benefits. Within each of those sections, all possible and relevant formats for reporting data were listed, and the user simply checked the various ways data were presented in the report being reviewed. For example, population served, expenditures, and cognitive benefit data could be reported by various geographic units (state, county, school district, schools), by type of school (public, nonpublic), ethnic group, school location (urban, rural, suburban), grade levels, and various interactions of those and other units (e.g., grade level x ethnic group x school location). In addition to listing all possible and relevant formats for data presentation, the cognitive benefit section of the checklist included an additional list of possible evaluation designs, types of standardized tests, and types of test scores reported.

After a Content Analysis Checklist was completed for each state report, the information contained in each checklist was summarized across state reports by fiscal year. Analysis of that summary provided a means of determining what data and what presentation formats were present across various aggregates of states. On the basis of that analysis, and the rating that the reports received on the Data Adequacy and Validity Rating Scale described below, relevant, valid, and representative data common across states were extracted and summarized.

As a result of discussions with USOE personnel, review of a list of questions that the Division of Compensatory Education asked states to answer in their annual reports, and analysis of the major and associated secondary objectives of this study, a list of key policy questions were developed. Those questions were designed to aid reviewers in identifying information relevant to the evaluation that was not necessarily supported by hard data or related to the major areas of data identified by the Content Analysis Checklist. The list of questions required identification of data relevant to the effects of the program on desegregation efforts, parent/community involvement, nonpublic school participation, other funding sources, cost-effectiveness, characteristics of successful projects, trends over the years, identified problems, and recommendations. Reviewers identified and summarized on 5 x 8 cards all information found in the reports relevant to those issues. In many cases, little information relevant to those issues was present in the reports and very often conclusions reached or recommendations made were not supported by any hard data. Nevertheless, information identified was analyzed and is summarized where appropriate in the following chapters.

In addition to completing the Content Analysis Checklist and identifying information relevant to key policy issues, reviewers were required to rate each state report on the Data Adequacy and Validity Rating Scale developed specifically for this project. The scale was developed to provide a means by which data from state reports could be excluded from consideration in those cases where their relevance and representativeness failed to meet minimum standards. The objective established for the scale was to provide a single index which would reflect the extent to which reports presented the desired types of data and the extent to which the presented data were valid and representative.

Development of the scale was substantially more difficult than had been anticipated due primarily to the almost limitless variety of reporting practices encountered. The developmental process was iterative in nature with initial and subsequent versions of the scale empirically tried out by three members of the project staff and revised in accordance with their comments. The final version, which was the fourth iteration, is presented in Appendix A along with the guidelines prepared for its use. All versions of the scale were found to produce adequate interrater reliabilities but there were consistent differences in the absolute magnitudes of the ratings given by different raters which were not eliminated until the final version of the scale was developed.

The time available for rating reports was minimal. Consequently, a total of four raters were used. Three of the four raters participated in all phases of the iterative scale development process and the fourth was thoroughly briefed by the others. Time did not permit as adequate a check of interrater reliability as was desired but what evidence was compiled indicates that reliability was high.

A sample of 30 reports was randomly selected to check interrater reliability. Ten FY 69 and 20 FY 70 reports were selected with only one state represented by reports from both fiscal years. Three reports in the selected sample could not be obtained and were subsequently replaced by three others that were also randomly selected. The selected reports were independently rated by two raters. They did not discuss their ratings with one another during the rating process but were free to ask the scale developer questions regarding sampling, scoring, and statistics.

Mean ratings and standard deviations were calculated for the two raters. Differences were tested respectively by means of $\underline{t}$ and F_{max} tests and they were found not to differ significantly. The two sets of ratings were subsequently intercorrelated and the correlation was found to be .91, indicating that 83 percent of the total variance was covariance. No further direct evidence of interrater reliability was obtained. Additional indirect evidence, however, is presented below.

Rating data obtained from the four reviewers were found to be highly skewed. Although the skewness was felt by the raters to be a property of the reports themselves rather than a byproduct of the rating scale, a decision was made to normalize the scores prior to any further analysis. This was accomplished by converting ratings first to percentile equivalents and then to standard scores with a mean of five (5) and a standard deviation of two (2).

Since the ratings had been generated by four different raters, it seemed appropriate to make a comparability check before undertaking any additional analyses. This check was performed by computing the means and variances of each rater's ratings. Differences between means were tested using $\underline{t}$ tests, and none of the paired combinations was found to differ significantly. Homogeneity of variance was tested using F_{max}, and again the null hypotheses could not be rejected. These tests, although not directly related to interrater reliability, did suggest that a common frame of reference had been used in the rating process and that the four sets of ratings could be pooled.

The results of both the content analysis and the data adequacy/validity ratings are discussed in the Characteristics of Data Sources section of the following chapter. The results and conclusions derived from analysis of those data that met minimum standards in terms of validity and relevance to the project are discussed where appropriate throughout the report.

In addition to national-level data and the state reports, other sources of relevant data including contractor reports, large city Title I reports, local educational agency evaluation reports and reviews of those documents were analyzed. However, due to the diversity of the data presented in those reports, the methods used for their analysis had to be tailored to their data characteristics. The procedures used to analyze those reports are therefore described when their data are discussed in the following chapters.

CHAPTER 2: ADMINISTRATION, EVALUATION, AND DATA CHARACTERISTICS

Federal, state, and local roles in administration and evaluation of the Elementary and Secondary Education Act, Title I, are described in this chapter. Interwoven with the discussion of role is Title I legislative and evaluation history and a description of the program's primary regulations, guidelines, and criteria. The two final sections describe the major Title I evaluations that have been conducted to date and the characteristics of the various evaluation data sources. This chapter is a prelude to the following chapter which focuses on evaluation of Title I management performance.

Administration[1]

As a direct attack on the broad educational problems facing children from low-income families, Congress enacted and the President signed into law 11 April 1965, the Elementary and Secondary Education Act (ESEA) of 1965 (P.L. 89-10). Title I of the Act is primarily concerned with provision of financial assistance to school systems with high concentrations of low-income children. Section 201 of P.L. 874, which was incorporated into Title I, clearly indicates the intent of the Act:

> In recognition of the special educational needs of children of low-income families and the impact that concentrations of low-income families have on the ability of local education agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial assistance (as set forth in this title) to local educational agencies serving areas with concentrations of children from low-income families to expand and improve their educational programs by various means (including preschool programs) which contribute particularly to meeting the special educational needs of educationally deprived children.

ESEA, Title I is a categorical grant program to states and local school systems. Funds are allocated primarily to schools that have high concentrations of children from low-income families for educational programs that are designed to overcome the multiple needs of educationally deprived children. This categorical aspect of the grant in combination with allocation procedures that require initial allocations to state educational agencies (SEA's) and suballocation by states to local educational agencies (LEA's), necessitates an administrative structure consisting of a federal-state-local partnership. This partnership is designed to ensure that allocated funds are used for their intended purpose and to enforce state and local compliance with federal regulations, guidelines, and criteria.

---

[1] This section was based upon review of Title I legislation, regulations, guidelines, and criteria. Supporting information was obtained from interviews with USOE personnel and from: USDHEW/OE, History of Title I ESEA, June 1969.

U. S. Office of Education's Administrative Role

Acting for the Commissioner of Education, the U. S. Office of Education (USOE) has the following administrative responsibilities:

- determining state authorizations
- ratably reducing authorizations on the basis of Congressional appropriations
- approving state applications for Title I funds
- making funds available to approved SEA's
- developing and disseminating administrative guidelines, regulations, and program criteria
- monitoring SEA's compliance to guidelines, regulations, and program criteria
- providing technical assistance to SEA's
- compiling fiscal, statistical, and evaluation data
- evaluating the national impact of the program

USOE determines school district or county authorizations on the basis of a formula described in the legislation. Initially the Act required a simple summation of (a) the number of children within an LEA or county aged 5 through 17 from families with an annual income of less than $2,000, and (b) the number of children aged 5 through 17 from families with incomes exceeding $2,000 due to receipt of Aid to Families with Dependent Children (AFDC), Title IV of the Social Security Act. The sum of these two counts was multiplied by one-half the average per-pupil expenditure in the state for the second preceding year.

To date, the number of children from low-income families has been determined by 1960 census data. The number of children from families that exceed $2,000 income due to AFDC was initially determined on the basis of AFDC data most comparable to the 1960 census; however, on November 3, 1966, P.L. 89-750 changed the base period to the latest calendar or fiscal year. On January 2, 1968, P.L. 90-247 eliminated the yearly period for determining the number of AFDC children entirely. Currently, the number of AFDC children is being determined by case load data from the month of January of the preceding fiscal year.

P.L. 89-750 (July 1, 1967) made three additional changes to the formula for county or LEA authorizations. First, the number of children supported in foster homes with public funds, and those in institutions for delinquent or neglected children whose education was not the responsibility of a state agency, were added to the two other eligible categories prior to multiplication by the per-pupil expenditure factor. The second modification changed the per-pupil expenditure factor from one-half the state average per-pupil expenditure for education to one-half the state or national average, whichever is larger. The third change authorized the use of $3,000 as the low-income factor beginning with fiscal year (FY) 1968 but P.L. 90-247 (January 1968) nullified the change by stipulating that the $3,000 factor was not to be used until appropriations reached the level required to provide maximum grants to all eligible agencies on the basis of the $2,000 factor.

Since the beginning of the second fiscal year of Title I operation, county authorizations have been determined by multiplying one-half the state or national per-pupil expenditure (whichever is larger) by the sum of the county's low-income children, AFDC children, and children not receiving state-aided education in foster homes and institutions for neglected and delinquent.[2] The state authorization for its local educational system is the simple sum of its county authorizations. States do, however, receive additional authorizations for (a) handicapped, delinquent, and neglected children in institutions receiving state support, (b) children from families of migratory agricultural workers, and (c) administration of the state Title I program.

FY 66 was the only year since the inception of Title I that Congress allocated enough funds to meet the authorizations determined by the formula -- since then authorizations have been ratably reduced to come within the amounts allocated by the appropriation act. The full effect of those reductions has been slightly mitigated by "floor amounts" set in annual appropriation acts and P.L. 90-274 (January 1968).

The Division of Compensatory Education (DCE) was established within USOE's Bureau of Elementary and Secondary Education to assume direct responsibility for administering Title I at the federal level. The major responsibility for administering the program at the state and local level is assigned by law to SEA's and LEA's. In addition to determining state authorizations and ratably reducing them on the basis of allocations, DCE must also review state applications for funds.

---

[2] The above-described formula is not applicable to the outlying areas of Puerto Rico, Guam, American Samoa, the Virgin Islands, and the Trust Territory of the Pacific Islands. During the first fiscal year of the program, FY 66, the outlying areas were authorized to receive a total amount equal to not more than two percent of the current appropriation. With the passage of P.L. 89-750 (July 1967) the percentage was increased to three percent, and a Department of Interior allocation for Indian children on reservations was added.

In submitting applications to participate in Title I, states are required to provide assurances that they and the participating LEA's in their states will comply with all the intents of the Act and associated DCE regulations, guidelines, and criteria. In approving state applications then, DCE implies acceptance of assurances that SEA's will approve only LEA projects that plan to:

- serve children in areas with high concentrations of children from low-income families
- meet the special educational and supportive needs of economically, educationally, and multiply deprived children in eligible attendance areas
- be of sufficient size, scope, and quality to give reasonable promise of meeting the special needs of disadvantaged children
- provide for participation of disadvantaged children in private schools
- maintain public agency control of Title I funds and property acquired with those funds
- be objectively evaluated with appropriate measures
- disseminate information about particularly effective procedures
- construct facilities, when necessary to meet the most pressing needs of disadvantaged children, that are consistent with overall state construction plans
- submit annual evaluation reports and other reports, as required, to their SEA

To assist SEA's in administering Title I within their states, DCE develops and disseminates regulations, guidelines, and program criteria that are intended to clarify the administrative aspects of the Act and its amendments. The first DCE regulations were published 15 September 1965. They were revised and reissued in March 1966, and February 1967, to include provisions of P.L. 89-313 and P.L. 89-750, respectively. The amendments of 1967 (P.L. 90-247) were first published in the Federal Register in 1968 and later added to the regulations and reissued in complete form in 1969.

Title I regulations consist of six major subparts, namely, A. Definitions, B. Eligibility for and Amount of Grants and Payments, C. Project Applications, D. Duties and Functions of State Education Agencies, E.

Payments, and F. General Provisions. The first section, Definitions, defines the major terms associated with the regulations, such as "educationally deprived children," "local educational agency," "project area," and "average per-pupil expenditure." Subpart B, Eligibility for and Amount of Grants and Payments, discusses LEA eligibility, determination of maximum grants, allocation of county aggregate grants by SEA's, ratable reduction, and related matters. Project applications, size, scope and quality of projects, private school participation, project evaluation, LEA reports and information dissemination, among other things, are described in Subpart C, Project Applications. Regulations relating to state participation, certification, approval of LEA applications and suballocation of county funds to LEA's are detailed in Duties and Functions, Subpart D. Subpart E, Payments, includes regulations dealing with federal appropriations, distribution of funds, limitations on payment, and state fiscal control and audit. The final section, General Provisions, deals with federal approval of state applications, allowable expenditures, records, and inventories. The latest regulations total 23 pages.

In addition to Title I regulations, DCE develops and disseminates program guidelines which provide information about fiscal administration and actual guidelines for such matters as determining concentrations of low-income families, needs assessment, and identification of educationally deprived children. The first set of program guidelines was presented in draft form to state Title I administrators at regional meetings during October of 1965. These were revised on the basis of discussions with state administrators and made available to SEA's for dissemination to LEA's in January 1966.

On 14 April 1967, the first set of formal program criteria was sent to the Chief State School Officers and State Title I Coordinators in the form of Program Guide #36. Those criteria were revised and issued again as Program Guide #44 in March 1968. Prior to those guides, DCE issued only separate Title I regulations and policy memoranda.

Program Guide #44 sets criteria for (a) selection of attendance areas, (b) needs assessment, (c) planning, (d) project design and implementation, (e) evaluation, and (f) use of Title I funds to supplement rather than supplant regular local and state funds. Other criteria and memoranda stress (a) the involvement of other programs and agencies in the planning and development of projects, (b) the requirement that Title I funds are to "follow the child" when he moves to another school, (c) parent and community involvement, and (d) concentration of services on the multiple needs of the most needy children.

USOE's monitoring functions are accomplished through state application review, state annual fiscal and evaluation report reviews, site visits, and state program management reviews. In addition to dissemination of Title I regulations, guidelines, criteria, and handbooks, DCE provides technical assistance to the states at regional meetings. Monitoring and technical assistance functions are also performed by personnel in the four Regional Title I Branches.

DCE also compiles fiscal, statistical, and evaluation data from State Title I Annual Evaluation and Fiscal Reports, and national surveys of Title I districts, schools, principals, and teachers. This information is used to evaluate the operation and impact of Title I.

State Education Agencies' Administrative Role

States are given the direct responsibility for administration of their Title I programs. Rather than submit specific administrative plans to DCE, they are merely required to submit applications to participate and to present associated assurances that they and their LEA's will comply with the letter and intent of the law, regulations, guidelines, and program criteria. They must also agree to keep required fiscal records, and provide DCE with annual fiscal and evaluation reports.

Other SEA administrative functions include:

- review, approval or disapproval of proposed LEA projects
- suballocation of basic grant funds to eligible and participating LEA's
- monitoring and provision of technical assistance to LEA's
- obtaining fiscal and evaluation reports from LEA's which form the basis for state fiscal and evaluation reports to USOE
- administering the operation of state Title I programs for children from migratory farm worker families, and children in state-supported institutions for the neglected, delinquent, and handicapped

DCE monitors those activities and provides technical assistance to the states as requested.

Local Education Agencies' Administrative Role

Title I enabling legislation instituted one of the first and largest federal-state-local education partnerships in the history of U. S. education. The legislation authorizes federal financing of thousands of separate, autonomous, local programs operated and administered by local school boards and approved by state school and USOE authorities. USOE's primary role is to administer the program while minimizing federal control over local education practices. The intent of the law is to let local educational agencies -- the agencies that are most acutely aware of the unique needs of local educationally deprived children -- design and implement projects that will match available resources to local needs.

In developing, proposing, implementing, and evaluating local projects, LEA's are required to identify areas impacted with high concentrations of children from low-income families, assess the special needs of children in those areas, and design projects that match available resources to identified needs. In addition to those activities, LEA's must keep adequate fiscal records and provide SEA's with annual fiscal and evaluation reports.

To insure compliance with existing regulations, guidelines, and program criteria, SEA's monitor LEA activities. SEA's are also required to provide technical assistance in planning, implementing, and evaluating local projects.

Evaluation

The operation and impact of the Title I program has been evaluated annually at the local, state, and national level since its inception in 1965. Enabling legislation requires local projects to maintain fiscal records and evaluate student achievement annually. LEA's compile these project records and evaluations for an annual report to State Title I Coordinators. On the basis of LEA-reported information and other information requested by the state coordinator, states produce annual state evaluation and fiscal reports for DCE. The format for LEA reports is usually based upon directives from the state coordinator who, in turn, receives directives from DCE regarding the format for state reports.

At the national level, the Commissioner of Education is required to report annually to Congress on the operation and impact of Title I. The Commissioner's first report, The First Year of Title I, Elementary and Secondary Education Act of 1965, was based upon an analysis and summary of the information contained in the State Title I Annual Evaluation reports submitted to DCE. Similarly, the second annual report (Title I/Year II) relied heavily on data from state reports; however, additional supporting data were provided by several independent contractor studies and a statistical survey of a representative sample of approximately 11,000 school districts.

The third annual report to Congress (Education of the Disadvantaged) and succeeding reports were based upon a national survey of a representative sample of all elementary schools receiving Title I funds during the fiscal year of interest. School principals and teachers from approximately 3,000 schools in 450 districts provided enrollment, fiscal, facilities, personnel, socioeconomic, teacher characteristic, classroom organization, Title I participation, and pupil characteristic information. Additionally, an attempt was made to collect student achievement data on approximately 100,000 students in those schools. Data from the sample of districts were projected to obtain estimates of school, teacher, and student characteristics for all elementary schools in the nation receiving Title I funds.

In addition to the annual reports to Congress, USOE's Bureau of Elementary and Secondary Education has annually published statistical reports based on surveys of representative samples of Title I districts in the nation. Unlike the most recent annual reports to Congress which are based upon a survey of Title I schools, the statistical reports' data base is information obtained by questionnaire from Title I districts. Annual statistical reports provide information about student participation, activities and services offered, personnel, and expenditures. In conducting the surveys that provide data for these reports, no attempt is made to obtain information on the impact of the program on participating students; rather, the reports are concerned primarily with Title I resource allocation. Recently, the data collection activities and instruments associated with both the annual statistical reports and the annual survey of Title I elementary schools have been part of the Bureau of Elementary and Secondary Education's Joint Federal/State Program of Educational Evaluation, commonly known as the Belmont Program.

A third source for evaluation information at the national level is the Annual Report to the President and Congress submitted by the National Advisory Council on the Education of Disadvantaged Children. The data base for those reports has varied through the years. Early reports were based on a review of a sampling of local school Title I projects. Later reports summarize the results of various studies supported or conducted by the Council, USOE, or the Department of Health, Education, and Welfare (HEW). Traditionally, those reports contain strong recommendations for Title I program improvement.

Management of Title I at state and local levels has been regularly reviewed since 1966 by the HEW Audit Agency as part of their review of state management of all HEW supported programs. Auditors visit the states and review fiscal and administrative records. The HEW Audit Agency's Audit Guide, Elementary and Secondary Education Act of 1965, Title I (1966) states that the primary objectives of the review are to examine each of the following issues:

- whether administrative and financial internal controls are adequate to provide accurate and reliable operating and financial reports essential for management evaluation and decisions

- whether the expenditures made are only for the established projects and programs and in accordance with applicable federal and state regulations and policies

- whether the administrative reviews have been made by the state agency to evaluate the operations of local projects or programs

- whether the state and local educational agencies have properly reported their accountability for grants of federal funds for the projects or programs to which the guide is applicable

- whether the projects and programs are conducted in an economical and efficient manner and in compliance with the requirements of applicable laws and regulations, and the approved state application

Prior to actual on-site visits to a state, auditors review all relevant state reports to USOE, Title I regulations, guidelines and criteria, and the Agency's Audit Guide. When on site, all Title I state audit, evaluation, and administrative reports are reviewed. Auditors also interview state officers and prepare draft audit reports that are discussed with state personnel at an exit interview. Upon completion of the state visit, auditors prepare a preliminary report and forward it to USOE and the state for comments. State and USOE comments about the preliminary report are considered, and a final audit report is prepared. USOE then, in a letter to the state, comments on the report, suggests corrective action, and demands the return of any misspent funds.

In 1969, the Bureau of Elementary and Secondary Education, Division of State Agency Cooperation, initiated a State Management Review Program of Title I, II, III, and V of the Elementary and Secondary Education Act. The program differs from HEW audits primarily in its scope, intensity, and focus on ESEA Titles. A team of from 7 to 12 USOE professionals visits states and reviews in depth the following Title I management functions: planning, evaluation, project administration, personnel management, fiscal management, dissemination, and information systems management. At the end of 1970, State Management Review Final Reports were available for 28 states and 2 territories.

In response to a critical review of Title I management made by a private group of organizations interested in equal educational opportunity for poor and minority children (Washington Research Project & NAACP Legal Defense and Educational Fund, Inc., December 1969), USOE organized in 1970 a special Title I Task Force to develop recommendations to improve the administration of the Title I program. As a result of one of the task force recommendations, DCE set up its own management review program that unlike the HEW audits and the State Management Review Program focuses only on Title I administration and not the management of other federally funded education programs. The program, known simply as the Title I Review Program, actually began operation in FY 71 and has completed approximately 52 state reviews to date. The review team consists of three to six "management compliance generalists" that regularly visit SEA's for one work-week to evaluate state management of Title I and state and LEA compliance with regulations. States are reviewed in terms of 15 management areas, and they are rated on their performance in each area. The review team also visits at least two LEA's within each state to verify SEA records of LEA operations. Within 30 days after completion of their review, the review team sends a letter to each reviewed state summarizing their findings and recommendations. A Title I Regional Branch Chief then assists each state in implementing the review team's recommendations.

In summary, the Title I program has been annually evaluated at the national, state, and local level. Local projects keep fiscal records and objectively evaluate project impact on participating children. School districts summarize those records and reports, then annually submit district reports to the state. States compile those LEA reports, summarize them, and annually provide USOE with state fiscal and evaluation reports.

On the basis of state reports and national surveys of Title I schools, USOE prepares an annual report to Congress. In addition, USOE publishes annual statistical reports concerned with the operation of Title I. The National Advisory Council on the Education of Disadvantaged Children also compiles annual reports and recommendations that are submitted to the President and Congress. Finally, the HEW Audit Agency, and more recently USOE's Division of State Agency Cooperation and the Division of Compensatory Education conduct periodic Title I management reviews of the states.

Characteristics of Data Sources

The original objective of this study was to evaluate the Title I program in terms of existing nationally representative data dealing with participation, expenditures, impact, and their interrelationships. Analysis of all possibly relevant data sources immediately indicated that nationally representative and valid impact data are simply not available and that some data relating to participation and expenditures also suffer from severe limitations. The characteristics of the major national, state, and local evaluation data sources described above are discussed in the following paragraphs. The focus is on identification of the limitations that those data characteristics imposed on the conduct of this study.

National-level Data

As described above, the three most relevant sources of information relating to the evaluation of the Title I program nationally are the Commissioner of Education's annual reports to Congress, DCE's Annual Statistical Reports, and the National Advisory Council on the Education of Disadvantaged Children's annual reports to the President and Congress. The first two sources are important since they have annually attempted to obtain data representative of the Title I program nationally. The importance of the Council's reports lies in their interpretation of data collected by other sources and their resulting recommendations to the President. However, they were of little value in providing hard data necessary to meet the objectives of this study. In contrast, the other two sources were heavily relied upon for valid and representative evaluation data.

The Commissioner's reports to Congress for the first two fiscal years of program operation were based primarily on data derived from State Title I Annual Evaluation Reports, the characteristics of which are described below. Since FY 68, however, the Commissioner's reports have been based upon a national survey of Title I elementary schools, teachers, and pupils. Similarly, DCE Annual Statistical Reports are based upon national surveys, but those surveys are of Title I districts rather than school principals and teachers. The instruments used in both of those surveys have recently become part of the Joint Federal/State Program of Educational Evaluation. Data from that Program's 1970 surveys were available near the completion of this study but were found either to duplicate data already in hand or had not yet been summarized in suitable form. Consequently, most of the nationally representative data reported here were derived from the Annual Statistical Reports and the FY 68 and FY 69 surveys of Title I school principals and teachers, hereafter often referred to as the Compensatory Education Surveys of FY 68 and FY 69 (USDHEW/OE, Education of Disadvantaged Children, April 1970; Glass, 1970).

The national surveys conducted for the annual statistical and Commissioner's reports were quite similar in terms of data collection techniques, sample selection, and resulting data limitations. The problems identified by those surveys that directly affected the conduct and results of this study are summarized below under appropriate headings. Only general problems are discussed, more specific limitations are detailed in the following chapters.

Comparison Data. The sample of districts encompassed by both the Annual Statistical Report surveys and the Compensatory Education Surveys were limited to Title I participating districts. School districts not receiving Title I funds were simply not sampled. Although both surveys provided a relatively complete picture of participating schools, the similarities and differences between those schools and nonparticipating schools cannot be determined on the basis of their data. The Context chapter of this report partially overcomes that limitation by including comparative data from other sources that are purportedly representative of all the nation's schools along with those provided by the annual surveys.

Inconsistencies. Expenditure and participation data reported by the two annual surveys were often found to be internally inconsistent and at variance with other sources such as the official figures of DCE. Some of those inconsistencies were undoubtedly due to the fact that the data presented in the survey reports were based upon samples and projections from samples. In many cases, however, inconsistencies were found to be clerical errors in the tables used to summarize data. Identified errors ranged from approximately 0.2 percent to 22 percent of the correct figures. Every attempt was made to correct detected errors and to present data that were internally consistent as well as consistent with other methodologically sound sources.

Response Rates. Both national surveys for each fiscal year had relatively high questionnaire response rates. However, questionnaire item response rates were often quite poor and, in many cases, the items not responded to were central to the objectives of this study. Unfortunately, the tabular summaries of those reports, with the exception of the FY 69 Compensatory Education Survey, often ignored the no-response problem or failed to state explicitly how nonresponses were handled in their summaries. Data in this report unavoidably reflect the limitations inherent in those surveys. Throughout the report, however, every effort is made to draw specific attention to conclusions which may be suspect because of problems relating to nonresponses or other data inadequacies.

Data Quality. In general, the questionnaire items for both annual surveys required responses that can be categorized as based upon hard data, based upon data of low validity, and based solely on estimates or opinions. Most expenditure and context data fell into one of the first two categories; however, impact and student characteristic data most often fell into the last two categories, and consequently must be considered less reliable and valid. Complicating the data quality matter was the fact that most survey reports suggested that there were often accounting, reporting, and terminology problems that remained unresolved and may have biased, in unknown ways, many of the item responses. Those problems were not described in detail in any of the survey reports.

Format. One of the most discouraging findings was that most of the nationally conducted surveys, with the exception of a few Annual Statistical Report surveys, reported data in dissimilar formats. When apparently similar data were identified across sources and fiscal years, careful analysis often showed that there were important differences which prevented their comparison. Even when almost identical questionnaires and methods were used for successive surveys, data reporting formats differed significantly. Apparently, there is a drastic need for some standardization of reporting format that will permit comparison of data collected by similar surveys across fiscal years.

Impact Data. Perhaps the major shortcoming of all Title I evaluations has been their failure to obtain hard data relating to the impact of the program on participating children. Both the FY 68 and the FY 69 Surveys of Compensatory Education attempted to collect standardized achievement test data; however, both of those attempts ended in failure. The only nationally representative data collected to date relating to program impact were teacher opinions obtained by the FY 69 Survey of Compensatory Education. Obviously, neither this nor any other evaluation report can say much about the impact of Title I on the intended beneficiaries until some representative hard achievement data are obtained.

State-level Data

It was possible to analyze state-level data characteristics in greater depth than national data sources since the 91 State Title I Annual Evaluation Reports available for review represented the largest source of potentially useful data available in a set of apparently homogeneous reports.[3] Initial review of a sample of those reports immediately cast doubt on their usefulness and suggested that their reporting formats and content were anything but similar. Nevertheless an attempt was made to

---

3. Table 7.5 in Chapter 7 lists the state reports that were available for review.

cull from those reports data that were comparable and that met minimum relevancy and validity requirements. Those data are reported in the following chapters. The specific characteristics of the state reports that severely limited their usefulness to the present study are described below.

Content Analysis. Data contained in the 46 FY 69 and 45 FY 70 State Title I Annual Evaluation Reports available for review are summarized below on the basis of the results obtained through use of the Content Analysis Checklist described in the Methods section of the previous chapter. The following paragraphs describe the content of those reports in terms of the three major categories of data that were desired; namely, population characteristics, expenditures, and impact data.

Table 2.1 summarizes the population characteristic data available in the State Title I Annual Evaluation Reports for FY 69 and FY 70. As indicated in that table, state reports presented population data in 14 different unidimensional formats and 16 multidimensional formats. Of the different unidimensional methods of presentation, only 4 were reported by a substantial number of states, and none of the multidimensional formats were reported by more than 8 states. As is obvious from that table, state report data could be combined across 14 or more states only if presented in terms of total population served by the states, public-nonpublic participation, participation by program, and participation by grade level. Also, all of those combinations would produce summaries that were nonrepresentative nationally and, in most cases, not even representative regionally.

There was another fundamental limitation inherent in the population-served data presented in those reports. It was found impossible to determine in many cases whether participating children were counted two or more times when they fell within more than one population breakdown. Some reports stated that figures presented were duplicated counts, others reported unduplicated counts, and the methods used for totaling population figures for the remainder were indeterminable. Consequently, all the population data presented in this report suffer from the mixing of duplicated and unduplicated counts in summaries across states and fiscal years. Also, as a result of that problem, all interrelationships between population characteristics and other data are influenced by the duplicated count problem to an unknown degree.

In summary, state reports provide only a minimum amount of population characteristic information that is comparable across states and fiscal years. Also, those data that are reported are greatly reduced in value by the confusion as to whether their population counts are duplicated or unduplicated. Finally, as a result of the duplicated/unduplicated count problem, determination of interrelationships between population characteristics and other variables across states are subject to inaccuracies that are indeterminable.

TABLE 2.1

Number of States Giving Breakdown of Target Population Served
by Various Categories for FY 69 and FY 70

Target Population reported by:	Total Population 69	Total Population 70	Evaluation Sample 69	Evaluation Sample 70	Other Sample 69	Other Sample 70
Geographic Units						
State	46	43				
County	4	1				
School District	4	3	1	1	0	1
LEA	0	3				
Other	2	0				
Public-Nonpublic	44	42				
Summer-Regular Year	6	4				
Ethnic Group	5	4	0	1		
Urban-Rural	0	1	4	3		
Family income			0	1		
Program	15	14	1	0	1	6
Project	1	3				
Grade Level	16	14	4	6	2	2
Grade Bands	0	1				
Interactions						
Grade x public-nonpublic	8	5				
Grade x urban-rural			1	2		
Grade x pub/nonpub x sum/reg x program	1	1				
Grade x pub/nonpub x sum/regular	1	2				
Grade x pub/non x school district	1					
Grade x summer/regular	1	2				
Grade x county	1					
Grade x project		1				
Grade x program	3	4				
Program x pub/non x summer/regular	2					
Program x pub/non x county	1					
Program x summer/regular	1					
Summer/regular x race x county	1					
Public/nonpub x LEA		1				
Public/nonpub x district		1				
Public/nonpub x summer/regular		1				
No Data	0	2				

Data contained in State Title I Annual Evaluation Reports relevant to expenditures were generally less complete and of lower quality than those dealing with the population served. The results of the content analysis with respect to expenditures are summarized in Table 2.2. Ove

TABLE 2.2

Number of States Providing Expenditures by Various Categories for FY 69 and FY 70

ESEA Title I expenditures reported by:	Total 69	Total 70	Per-pupil 69	Per-pupil 70
Geographic Units				
State	25	22	15	9
County	4	2	2	0
School District	6	3	2	1
LEA	0	2	0	0
Program	11	14	6	9
Project	2	3	1	1
Instructional Services/Supportive Services	15	12	1	1
Specific Instructional and Specific Supportive Services	13	12	3	3
Regular Year/Summer	5	7	1	4
Interactions				
Program x regular year/summer	1	3	1	3
Program x regular/summer x county	1			
Program x instruc/support x reg/summer	1		1	
Program x school district		1		
Specific instruc/support x county	1			
Specific support services x reg/summer	1		1	
Instructional/support services x reg/sum		1		
LEA x regular year/summer		1		
Elementary/secondary x county		1		1
No Data	17	15		

one-third (32) of the reports which were available for review presented no expenditure information whatsoever. Forty-seven reports presented total statewide expenditures, and 24 gave average per-pupil expenditure figures (12 gave both). Total cost breakdowns according to program were given by about 27 percent of the reports while 16 percent presented similar information on a per-pupil basis. Cost data broken down by instructional versus supportive service were given in approximately 30 percent of the reports. There were 9 different multidimension breakdowns. One of them was used by 3 states in two consecutive fiscal years while the other 8 were used by only 1 state each fiscal year.

Of the 25 reports which provided cost data broken down by specific programs, only 10 conformed to the guidelines contained in the USOE handbook, Financial Accounting for Local and State School Systems (Reason & White, 1966). Other reports categorized activities in unique ways with the result that identical activities were sometimes subsumed under different categories in different reports. This finding, coupled with the generally incomplete and noncomparable status of expenditure information contained in the state reports, provided a good indication of the insufficiency of those data for evaluation purposes.

State report information relative to cognitive benefits, like the national-level data, was far less complete and useful than information in the other two categories. Information about the population served and expenditures was, for the most part, available on a statewide basis. This was almost never the case with cognitive benefit data which were typically presented for only a small and frequently nonrepresentative sample of the participating pupils.

In addition to the sampling issue which will be discussed in greater detail later, there were many additional problems associated with the measurement of cognitive benefits and with the reporting of results. Table 2.3, which summarizes the results of the content analysis with respect to cognitive benefits, provides a clear indication of the diversity of evaluation designs and reporting formats which were encountered. Eight of the 91 reports gave no cognitive benefit data. Only two states each fiscal year reported a statewide testing program for purposes of Title I evaluation. There were six additional reports from which it was impossible to determine whether results had come from statewide testing programs or not. By far the most common evaluation design, reflected in 75 percent of the reports, involved pre- and posttesting. A few reports cited posttest-only designs with comparison groups or posttest only with comparisons made against normative data.

As indicated by Tables 2.3 and 2.4, there was also great variation in the tests used, the scoring systems employed, and the manner in which the results were summarized. The number of tests reported by individual states ranged from 0 to 144. Where several tests were used, reporting practices again varied. Some states pooled the results from different tests while others presented data only from the most widely used test or

TABLE 2.3

Number of States Providing Evaluation Data
of Various Types for FY 69 and FY 70

Evaluation Design	All Samples		Some Samples	
	69	70	69	70
Pre-, posttest	34	35	3	3
Posttest with norms	2	1	2	4
Experimental/comparison	2	3	4	2
Data reported, design not specified	2	1	-	-
Sample Characteristics				
N given	39	37	-	-
Random selection	4	2	0	0
Selection by use of same tests	15	13	1	1
Selection by district/project	6	9	2	3
Sample of grade levels	6	6	3	1
Selection by program	3	2	0	1
Data reported, method not given	12	7	-	0
Other selection process	3	3	0	0
Score Breakdowns				
State (no breakdowns)	9	9	2	4
County	0	0	0	0
School District	1	1	0	1
LEA	1	1	0	2
Urban-rural	1	1	0	0
Instructional Program	5	4	2	1
Project	5	1	0	1
Grade level	24	24	6	5
Grade bands	3	2	0	1
Public-nonpublic	1	2	1	0
City size	1	0	0	1
Regular year/summer	2	4	1	1
Interactions	3	1	0	0
Other	0	3	1	3
Type of Score Reported				
Raw scores	4	2	5	3
Standard scores (K, T, Z)	2	1	2	0
Stanine	0	1	0	0
Percentiles	2	3	3	4
Deciles	1	1	1	0
Quartiles	11	8	2	2

TABLE 2.3, cont'd

Number of States Providing Evaluation Data of Various Types of FY 69 and FY 70

Evaluation Design	All Samples 69	All Samples 70	Some Samples 69	Some Samples 70
Grade equivalent	12	9	5	6
Grade-equivalent gains	14	18	6	6
Other	0	6	3	7
Summary Statistics				
Mean	22	25	9	3
Median	4	2	2	0
Mode	1	1	0	0
Standard deviation	2	5	4	3
Percent upward shift	3	-	2	-
No Data	5	3	-	-

tests. Alabama, for example, which reported having used 144 standardized tests during FY 69 presented results from only one reading and one arithmetic test. Most frequently, scores were summarized in terms of means without any measures of variability. A large number of reports cited numbers of children in each quartile of the national norms. Other reporting formats were used less frequently, as indicated in Table 2.3, but the extent of variability in the reports cannot be fully appreciated unless it is realized that the type of score reported was independent of the type of summary statistic so that there were mean raw scores, mean standardized scores, mean grade-equivalent scores, mean gain scores, etc. Content and format variations precluded making more than a few comparisons from state to state even when the evaluation samples were adequately representative of the population served.

Usefulness of State-reported Data. All 91 State Title I Annual Evaluation Reports were rated using the AIR-developed Data Adequacy and Validity Scale which was described in Chapter 1 of this report. The scale had a theoretical range of from 0.0 (totally useless) to 7.6 (possessing all desirable features with respect to the amount, quality, and breakdown of population, cost, program, and achievement data). The obtained range was from 0.0 (District of Columbia, 1970) to 4.4 (California, 1970). Clearly even the best of the state reports left much to be desired.

TABLE 2.4

Standardized Tests used by States as Determined from their FY 69 and FY 70 State Title I Annual Evaluation Reports

Test	Number of States	
	69	70
Ability/IQ		
Peabody Picture Vocabulary	2	2
Wechsler Intelligence Scale	2	0
Readiness		
Lee-Clark	3	0
Metropolitan	6	5
Reading Achievement		
California Achievement - Reading	10	9
California Reading Test	12	8
Durrell-Sullivan	4	4
Gates-MacGinitie	16	23
Gray Oral Reading	6	2
Iowa Tests of Basic Skills - Reading	12	11
Metropolitan Achievement - Reading	14	16
SRA Achievement - Reading	5	4
Stanford Achievement - Reading	19	16
Math Achievement		
California Achievement - Math	2	1
Iowa Tests of Basic Skills - Math	1	2
Stanford Achievement - Math	1	3
Other Standardized Achievement		
California Achievement	5	2
Iowa Tests of Basic Skills	8	6
Metropolitan Achievement Test	4	4
SRA Achievement Test	3	4
Stanford Achievement Test	9	4

The distribution of scores was highly skewed in the positive direction with the mean rating falling at 1.3, the median at 1.0, and the mode (eight reports) at 0.5. While it is not possible to translate these ratings into descriptions of report characteristics because the scale was multidimensional, it is clear that the majority of the reports fell at the very lowest end of the scoring continuum and were grossly deficient with respect to the data they presented.

Of considerable interest was the issue of whether or not trends could be observed in the reports in terms of the adequacy and validity of data reported. Rating data were normalized and standardized, and a correlation was computed between the FY 69 and FY 70 ratings for the available 41 pairs of reports. The correlation was found to be .62 which, although statistically significant at the .001 level, accounted for a surprisingly small 38 percent of the total rating variance. Even though both fiscal year reports for any one state were rated by a single rater, only five states received the same rating for the two years.

There was no evidence that the overall quality of the reports was either increasing or decreasing. The mean (normalized, standardized) rating for FY 69 was 5.34 while it was 5.00 for FY 70. The difference between these mean ratings was not statistically significant ($\underline{t} = 1.32$, $p > .10$). In 16 states the ratings improved from FY 69 to FY 70 but reports from 20 states showed the opposite effect. A Chi Square test showed that these frequencies were not significantly different.

Similar analyses were conducted using just the Cognitive Benefit Information portion of the rating scale which had a theoretical range of from 0.0 to 2.0. Again the ratings were positively skewed with the mean equal to 0.4, the median equal to 0.3, and the mode equal to 0.1. All of these summary statistics fell at the bottom end of the scale in the range defined by the anchor points "certainly biased" to "probably biased."

Using normalized cognitive benefit rating scores, the intercorrelation between FY 69 and FY 70 was found to be .39 -- slightly lower than the corresponding correlation based on the overall rating scores. This finding implies that there was less consistency in reporting cognitive benefits than in reporting target group, program, and cost information. The mean normalized cognitive benefit rating was 5.28 for 1969 and 4.70 for 1970. This difference approaches statistical significance ($t = 1.74$, $.10 > p > .05$, two-tailed) and tends to support the hypothesis that cognitive benefit reporting is getting worse rather than improving. For both years, the average quality of cognitive benefit reporting fell below the minimum acceptable level, reflecting samples which were judged to be biased and inadequate statistical presentations.

The only conclusion that can be reached on the basis of the state report content analysis and the ratings of state report data adequacy/validity is that state reports are totally inadequate sources of information for assessing the national impact of Title I. A few reports contain acceptable data at the state level but differences in content, breakdown, and format preclude combining even these data into meaningful aggregates of states. While some useful data of an anecdotal nature were found and are reported in later chapters, the main value of State Title I Annual Evaluation Reports lies in the indication they provide of the extreme differences which exist among states with respect to students served, expenditures, and program impact.

CHAPTER 3: TITLE I MANAGEMENT PERFORMANCE

The federal, state, and local role in administration and evaluation of Title I was described in the previous chapter. That information was necessary background for the following sections which deal directly with evaluation of Title I management at all levels of the administrative structure. Actual Title I operation is compared to intended operation as described in the enabling legislation and associated regulations, guidelines, and program criteria. The central concern is whether federal, state, and local management of Title I is faithful to the letter and spirit of the law.

The primary data sources used in the following sections are Department of Health, Education, and Welfare (HEW) State Audit Reports and U. S. Office of Education (USOE) State Management Reviews. As detailed earlier, state educational agencies (SEA's) have been subjected to periodic Title I management reviews since 1966 by HEW, and since 1969 by USOE. HEW audits focus on SEA project approval procedures, monitoring activities, fiscal control, local educational agency (LEA) audits, and state/local compliance with the law, regulations, guidelines, and program criteria. USOE State Management Reviews are similarly concerned with fiscal management and compliance; however, they also review state planning, evaluation, project administration, personnel management, and information system management.

This, the first section of the report dealing directly with evaluation of Title I, has as its focus Title I management at all levels of the administrative structure. Only management performance will be discussed -- no attempt is made in the immediately following sections to evaluate the educational value of Title I or the impact of the program on participating children.

The Washington Research Project

In the spring of 1969, a small group of private organizations concerned with the educational opportunities offered poor and minority group children agreed to conduct a study of Title I fiscal management and the extent of state and local educational agency compliance with ESEA, Title I legislation, regulations, and criteria. In terms of rationale, the group felt that since educationally deprived children were ultimately held accountable for the federal Title I investment -- they are the children tested to determine program impact -- it was appropriate for the parents of those children, and private organizations working on their behalf, to make an attempt to determine if poor and minority group children were accorded the rights and benefits entitled to them by the Title I enabling legislation.

The Southern Center for Studies in Public Policy and the NAACP Legal Defense and Educational Fund, Inc. assumed major responsibility for the study. Officials at all levels of Title I administration were interviewed and HEW Audit Agency and USOE records were reviewed. Title I officials in 9 states, 28 Title I coordinators of local districts, 39 principals or teachers in Title I schools, and 191 parents of children in Title I schools were interviewed. The state and local systems from which data were collected were selected in an attempt to get a rough cross section of systems which were representative of the United States regionally, in terms of enrollment size, racial mix, and rural-suburban-urban location.

The final report of the group, Title I of ESEA: Is it helping poor children?, focuses on how Title I is administered, how Title I monies are spent, and the consequences of those activities on children eligible for Title I benefits. Since the report summarizes the first comprehensive review of Title I operations by concerned private groups and is based upon HEW-conducted audits of state and local educational agencies, it seems appropriate to summarize here the report's findings.

Use of Title I Funds for General Aid

Title I enabling legislation, federal regulations, and a number of program criteria emphasize that Title I funds are not to be used as general aid to the school systems; rather, projects must be designed to meet the special educational needs of educationally deprived children [cf: Code of Federal Regulations (CFR) 45, 116.17 (g); Program Guide #36 and #44]. Title I funds are clearly intended to provide categorical aid to educationally deprived children located in schools with high concentrations of children from low-income families. Funds are intended to be concentrated on the needy in targeted schools -- they are not intended as general aid to SEA's, LEA's, or schools in general.

In applying for Title I funds, SEA's are required to provide assurances that they will approve only LEA project applications that concentrate funds on educationally deprived children in target schools. LEA's in applying to their state must clearly indicate the results of their needs assessment activity and provide justification for their proposed allocation of resources. The Congressional intent is clear: states and LEA's bear primary responsibility for insuring that Title I funds will not be used as general aid to school systems (although exceptions may be made where whole school systems are in low-income areas and the best approach to meeting needs is through upgrading the regular program).

On the basis of their review of HEW audits and interviews with Title I officials, school personnel, and parents, the Washington Research Project concluded that Title I funds are frequently used for general administrative or school purposes. Violations identified fell into four categories: (a) SEA use of funds for non-Title I operations, (b) services, equipment, and supplies made available to all schools in a district or all children in a school, (c) funds used to aid non-targeted schools, and (d) failure to concentrate funds on educationally needy children in targeted areas.

On the basis of HEW audits, the Project identified seven states that used state Title I administration funds for general SEA operations. Specific violations included (a) the payment of salaries and retirement costs of SEA employees not directly involved in the Title I program, (b) salary increases for an entire SEA staff paid for with Title I funds, (c) duplicate payments for unallowable costs, (d) draft of Title I funds in excess of expenditures, and (e) use of funds for salaries of SEA employees whose positions would be funded regardless of the Title I program. On the basis of these violations it would seem that SEA's are poorly qualified to police local school systems who use Title I funds as general aid since they are themselves guilty of a similar offense.

At the LEA level, the Project identified approximately 20 local school systems that used Title I money for the benefit of the entire district. Violations included the use of Title I funds to provide services to noneligible children and teachers, to purchase equipment for entire districts, to pay salaries of employees not involved in the program, and to cover general district overhead. Few of the violations reported in this category directly withheld services from the needy; rather, they tended to dilute the concentration of services intended by law.

In a few cases the Project identified violations that actually resulted in the provision of services and equipment exclusively to noneligible schools. In one state, 23 counties lent equipment to nontargeted schools where students were ineligible for participation. In another area, 45 schools that were not designated as Title I schools received substantial amounts of Title I money. These violations, though apparently less frequent, illustrate the extent of disregard for Title I legislation, regulations, and criteria that does occasionally occur.

The fourth type of violation relating to the use of Title I funds as general aid is the failure to concentrate Title I funds on the most needy, in a limited number of target areas, and to provide programs of sufficient size, scope, and quality to insure reasonable promise of success [CFR 45, 116.17 (a) and (c), 116.18 (e); Program Guide #44]. The two most frequent violations of concentration requirements reported by the Project were provision of services and equipment to all schools in a poverty area regardless of whether they had the required concentration of children from low-income families, and use of Title I funds to equalize segregated schools in an attempt to make them more attractive to Black parents and thereby reduce their desire to participate in desegregation.

In addition to reporting of specific violations of the concentration regulation, the Project pointed out that the average Title I per-pupil expenditure from fiscal years (FY) 66 through 68 was approximately $100, too little, in the opinion of the Project staff, to make a significant impact on participating children. Program Guide #44, Section 4.7, suggests the Title I per-pupil expenditure for compensatory educational services should equal about one-half the expenditure per child that is provided by state and local funds for the regular school program. USOE's Division of Compensatory Education's official figures for average regular per-pupil expenditure for FY 66-68 indicate that, nationally, Title I per-pupil expenditures do not approach the suggested[1] supplemental expenditure of one-half regular expenditures; rather, they approximate only one-fifth of the regular expenditure (see Chapter 6, Resource Allocation). Those figures clearly indicate that the states have ignored the concentration of resource regulation.

Also reported by the Project was the finding that several counties in the South and one large city on the West Coast failed to provide Title I services to children who left Title I schools to enroll in schools which did not prolong the child's racial, social, or linguistic isolation. This is a direct violation of Program Guide #28 which states, "no child who would otherwise participate in a Title I activity or service is to be denied such participation because of his exercise of the right to enroll in another school." The Guide further states that, "A major new area for vigilance and administrative care is that of ensuring that special educational services follow the eligible child who is transferred under a school desegregation program." The Project concluded that many Title I projects conducted in isolated settings fail to provide services that follow the child to a school outside the target area.

A recent study of federal aid to education by Berke, Bailey, Campbell, and Sacks (1971) supports two of the conclusions made by the Washington Research Project. On the basis of on-site review of the fiscal records of 573 districts in five industrialized, largely metropolitan states in which two-thirds of the nation's citizens reside, the authors reached several conclusions they claimed were primarily applicable to the cities, suburbs, and rural portions of those states. Specifically, they concluded, as did the Washington Research Project, that Title I funds are often used for general school purposes and that Title I funds are used in the South to make segregated Black schools more attractive to Black parents.

There appears to be strong evidence that Title I funds are being used for general school aid, are not being concentrated on the most needy, and are being misused in the South to frustrate integration. In a concluding statement relating to these violations, the Washington Research Project stated that it was unfair to hold poor children accountable -- in terms of achievement test scores -- for the misuse and dilution of resources intended to benefit them. Clearly, only USOE, the states, and their LEA's can be held accountable for the general failure to comply with the spirit and intent of Title I legislation.

---

1. The issue of minimum useful expenditures is discussed in Chapter 7 of this report along with other cost-effectiveness issues.

Use of Title I Funds to Supplant Rather than Supplement Federal, State, and Local Funds

When school systems use Title I money in place of regular state and local funds, they are said to be supplanting those monies with Title I funds. Title I regulations and criteria clearly state that Title I funds are not to be used to supplant state or local funds; rather, they are intended to supplement those funds [CFR 45, 116.17 (h); Program Guide #44]. Title I expenditures are intended to be over and above existing expenditures or expenditures that would have been made if Title I funds were unavailable.

The Washington Research Project identified three basic types of supplanting; namely, (a) use of funds to equalize poor schools with other schools in the system, (b) use of funds for programs previously supported by state and local funds, and (c) use of Title I funds in place of other federal money specifically set aside for the same purpose. The following will illustrate some of the specific violations in each category.

Equalization of poor schools with Title I funds appears to be prevalent in the South where unequal and discriminatory schools have been traditional. The Project reported that 74 percent of the Title I funds used in one Southern state were spent to make predominantly Black schools comparable to white schools. Typical violations included (a) the construction of libraries in white schools with state and local funds and similar facilities in predominantly Black schools with Title I funds, and (b) use of Title I funds to obtain furniture for a Black school when non-Black schools in the district were furnished with state and local funds. In one county in another Southern state, the highest per-pupil expenditure for Black schools was about half that of the lowest per-pupil expenditure in white schools, and the district superintendent testified in a federal court that Title I funds were going to Black schools in an attempt to equalize expenditures (Hopson vs. Quitman County Board of Education, Mississippi, December 18, 1968).

The Project report was quick to point out that equalization with Title I funds is not strictly a Southern practice. In one Northern state, used for illustration of the point, reading and language arts programs in the state's high-expenditure districts were supported by state and local funds whereas the same types of programs were supported by Title I funds in the lower-expenditure Title I districts.

To illustrate the use of Title I money to support services and programs which were supported by local and state funds prior to Title I, the Project cited ten school systems that committed one or more violations. In general those violations consisted of use of Title I funds for construction, equipment, and salaries when local and state money was previously allocated for those purposes. Those and other violations reported by the Washington Research Project clearly indicate that local school systems often supplant state and local funds with Title I monies.

Title I money is frequently used to supplant federal funds that are earmarked for specific services and activities. The Washington Research Project and the Berke et al. study (1971) provide evidence that Title I monies have been spent for projects that could have been funded from other underspent federal budgets. Specifically, Title I money often supplants the National School Lunch Program monies, Title II ESEA library resource funds, and Vocational Education Act funds.

In light of the above-described evidence indicating use of Title I funds as general aid and to supplant federal, state, and local funds, it is not surprising that the Washington Research Project reported that community groups and parents often complain that they cannot determine where Title I money is going in their school systems. Berke et al. (1971) made a similar finding. After review of state and local records in a regionally representative sample of states, they concluded that it was impossible to trace payment of federal aid down to the district level. It appears obvious that Title I money is so intermingled with state and local funds that any attempt at accountability is doomed to failure.

Unessential Construction and Equipment

Title I regulations and guidelines state that Title I funds should be used for construction only when such construction is necessary to implement projects designed to meet the highest priority needs of educationally deprived children (Program Guide #44) and such construction is demonstrated as being essential in order to assure the success of a program or project [CFR 45, 116.17 (i)]. Further, SEA's should not approve construction of facilities that would lead to, or would tend to maintain, the cultural or linguistic isolation of children [CFR 45, 116.21 (f)].

Despite those provisions, many school districts have spent inordinate amounts of Title I money for construction of facilities that were nonessential for their Title I program or were unnecessary to meet the highest priority needs of participating children. The Washington Research Project illustrated this point with three examples. The first was a Midwestern district which spent 1.4 million dollars of Title I funds for administrative offices, only a few of which were actually used for Title I activities. The second example pointed out a Southern district's use of Title I money to construct a "trailer school" in a cotton field to perpetuate segregation of Black children. The third example was another Southern district which spent 90 percent of its entire Title I allocation for construction of a school that now has a predominantly Black enrollment despite a federal court order to desegregate the school system. In each of these cases, construction was either not essential to meet the educational needs of participating children or it actually tended to maintain cultural and linguistic isolation of minority children.

Program Guide #44 requires that all requests for funds for the purchase of equipment must be fully jusitified. SEA's are required to ensure that all approved LEA applications show that equipment has been selected and designated to meet the needs of targeted children, the equipment is essential to project implementation, the requested equipment is not available in the applicant's regular or Title I inventory, and the applicant will train or make arrangements to train staff to effectively utilize the equipment.

Notwithstanding these regulations, many districts expended millions of Title I dollars for the purchase of large amounts of unnecessary equipment while priority needs of disadvantaged children went unmet. Typical equipment regulation violations cited by the Washington Research Project include use of Title I funds to purchase equipment for other programs, to obtain frills such as uniforms and musical instruments when more serious needs went unmet, and to purchase unnecessary equipment as a means of using unexpended funds. Also reported were equipment expenditures exceeding those proposed and the failure to train staff in equipment use. Those examples suggest that almost every conceivable violation of the equipment guidelines has occurred.

Failure to Focus on High Priority Educational Needs

Title I regulations clearly state that the primary purpose of the legislation is to meet the special educational needs of educationally deprived children who have the greatest need for assistance [Program Guide #44; CFR 45, 116.17 (f) and 116.17 (c)]. Although expenditures for health, food, cultural, and recreation services are permissible, they must be fully justified on the basis that the resources of other agencies are not adequate to meet high priority needs for these services. The central purpose of the funds is to attend to the educational needs of the most needy -- health, food, and recreational services are intended to be only supportive of the main educational program.

The Washington Research Project provided evidence that many school systems have used Title I funds in only a limited way for academic programs; rather, they have purchased excessive equipment; added to their administrative staff; provided health, food, cultural or recreational services that were not needed, were unrelated to meeting the educational needs of children, or should have been provided by other federal or private programs. Their report specified approximately 14 LEA's that have committed one or more of those violations. The report concluded that the major goal of Title I legislation -- meeting the educational needs of disadvantaged children -- will not be met until Title I funds are directed at the most acute educational needs of poor children.

Lack of Community Involvement

Community involvement in planning, operation, and appraisal of Title I projects is required by the enacting legislation and Title I regulations [CFR 45, 116.18 (f); Program Guide #44]. To encourage intelligent involvement, regulations require that terms and provisions of each project be made available for public inspection [CFR 45, 116.34; Program Guide #44]. Further, Program Guide #44 requires that some appropriate vehicle for community involvement, such as a Title I advisory committee, be established by school systems, with at least half of the committee composed of representatives of the poor community.

The Washington Research Project, on the basis of school administrator, teacher, and parent interviews, concluded that many districts ignore those requirements. They reported specific incidents where (a) interested community members were prevented from getting involved in project planning, operation, and evaluation, (b) Title I information was denied to parents, (c) Title I advisory committees were not properly constituted, and (d) advisory committees were asked to "rubber stamp" proposals drawn up by a few school officials. The major cause for the lack of community involvement, according to the Project, has been the general lack of effort by many districts to reach out into the community to ensure that parents are not only aware of Title I programs, but also are involved in their planning, operation, and evaluation. There must be a general willingness on the part of the school establishment to communicate with and be accountable to poor communities.

General and State Administration Problems

In an attempt to explain why the Title I federal-state-local administrative partnership has failed to comply with the letter and spirit of Title I legislation and regulations, the Washington Research Project identified several administrative problems that can be classified as General and State Administration deficiencies. The following will briefly summarize these problems and present the recommendations made by the Washington Research Project that were designed to overcome them.

General Problems. The Washington Research Project concluded that the administrative responsibility for Title I was not commonly accepted at any level of Title I administration. The Office of Education viewed Title I as a state program that they guided and monitored. Many states, in turn, took the position that Title I was a local program which required states to provide only the mechanism for suballocation of funds to LEA's. School systems assumed, that since the criteria for spending allocated funds were set down by the state, Title I was not truly a local program, but a state program. Lack of acceptance of administrative responsibility, according to the Project, makes it impossible for the program to have rational and coherent administration.

The sheer size, uniqueness, and sudden enactment of the Title I program further contributed to administrative difficulties. Title I provides LEA's with approximately 50 percent of their entire federal aid. Every state and most school districts in the nation are currently involved in the program. The enacting legislation set up the first real federal-state-local partnership in educational history. It required new roles and new coordination at all levels of the educational establishment. USOE, states, and local educational systems were initially unprepared for these new roles. Regulations, guidelines, and criteria had to be developed, lines of communication improved, and responsibilities had to be identified and accepted. Perhaps it was unreasonable to expect such a large, unique, and swiftly enacted program to be properly administered and implemented during its first few years of operation.

Title I administration is also complicated by the dominant administrative philosophy at local levels. States fear federal domination, and local authorities are suspicious of state encroachment. The partnership required by Title I has been caught in a political thicket that will undoubtedly take time to improve.

The Project also charged the federal government with being timid and negligent in implementing and enforcing Title I regulations. They reported some evidence that the federal government has been negligent in following up violations identified by HEW audits. When states realized that there was more bark than bite to the HEW audits, they tended to relax their administration of the program, and local agencies, in turn, followed the states' lead.

A more recent study of federal grants management by the Public Administration Service (1971) similarly reported that mismanagement of federal grants in many cases was due to the context in which grants are administered. The report concluded that grants management takes place in an "atmosphere of ambiguity and uncertainty" resulting from (a) the lack of definition of USOE's role in grants management, (b) the failure to place and accept authority at all levels of management, (c) the several coexisting assumptions regarding the purpose for which grants are made, and (d) the shunting aside by "professional educators" turned "managers" of the questions relating to proprieties and protocols in intergovernment and interagency relationships. All of these factors tend to make the grants-management context less than conducive to smooth administration.

State Problems. The numerous violations discussed in this section suggest that many states lack the ability or willingness to administer the Title I program in a manner faithful to national policy. State administrators often complain that this state of affairs is due to the planning difficulties that result from uncertain and often late Title I funding, insufficient staff and administration funding, and the failure of the federal government to back up states when they seek local compliance with regulations and criteria. The Public Administration Service's report (1971) suggests some state administration difficulty can be directly attributed to USOE's own grants-management practices. Specifically, the report concludes that USOE's excessive concern for keeping careful track of the federal dollar impinges on SEA organizational structure by forcing compartmentalization on the basis of each category of federal dollars that must be monitored; furthermore, it affects SEA staff members by encouraging them to develop the conviction that they are somehow "employees" of the funding system rather than the state. Neither of these effects are seen as being constructive of a good federal-state administrative partnership.

Regardless of the causes for state mismanagement, a recent HEW Audit Agency report (March 1969) to USOE clearly documented some of the specific weaknesses that do exist in state administration of the Title I program. On the basis of the 78 different deficiencies identified in 10 areas of program management, the report recommended the following improvements in state administration of Title I:

- better financial management to ensure that Title I funds are spent in accordance with the law
- clearer understanding of the allowability of administrative and overhead costs for Title I program purposes
- more effective procedures for controling and reviewing the substantive aspects of proposed local projects to ensure compliance with the law
- more effective auditing by states of local projects

The Washington Research Project and several more recent studies of Title I management seem to agree that many of the administrative problems associated with the program have been or are due to (a) the size, uniqueness, and sudden enactment of the program, (b) a general failure at all management levels to accept administrative responsibility, (c) a state and local fear of domination by higher levels of authority, (d) negligence in enforcing regulations and lack of necessary leverage to do so, (e) uncertain and insufficient funding, and (f) over-concern with tracking of the federal dollar. Recognizing these problems, and having become aware of the seriousness of state and local noncompliance with program regulations, the Washington Research Project compiled a list of recommendations for program improvement. Those recommendations follow.

Washington Research Project Recommendations

In summarizing their review of HEW audit reports and interviews with Title I parents, and USOE, state, and local Title I officials, the Washington Research Project concluded that the intended beneficiaries of Title I -- the poor children of the nation -- are being denied the benefits of Title I. The report suggests that this state of affairs is due to the reluctant and timid administration of Title I by USOE, the failure of SEA's to administer the program in conformity with the law, improper and illegal use of Title I funds, the failure to focus projects on the most acute educational needs of the most needy children, and lack of parent and community involvement in planning, implementing, and evaluating projects.

To overcome those identified and documented deficiencies, the report strongly recommended that:

- Congress should conduct an immediate investigation of the misuse of Title I funds.

- Congress should provide full funding under the Act.

- All efforts to make Title I a "bloc" rather than a "categorical" grant should be rejected.

- HEW and the Department of Justice should take immediate action against school systems that have illegally used Title I funds.

- HEW should enforce compliance with the law, regulations, and criteria.

- HEW should enforce the requirement that Title I and non-Title I schools throughout the country be made comparable in terms of expenditures, facilities, and personnel.

- USOE should be given additional staff to institute an effective monitoring and evaluation system to ensure proper use of Title I funds.

- States should ensure that Title I programs actually meet the educational needs of all poor children and recognize the cultural heritage of racial and ethnic groups.

- Where state and local officials are unable or unwilling to operate effective programs, alternative vehicles of operation should be provided, e.g., private, nonprofit organization operation.

- Provisions requiring community participation should be strengthened.

- Local school districts should make greater effort to involve Title I parents and the poor community in planning, operating, and evaluating Title I projects.

- Private citizens should demand information and greater community participation on local advisory committees.

In addition to those recommendations, the Project suggested further study of the supplanting issue, the problem of equitable distribution of funds at the local level, and the relation of the Title I program to other federal programs for the disadvantaged.

HEW Audit Analysis

The HEW Audit Agency recently completed an analysis of all SEA audits conducted between FY 66 and FY 69. The major thrust of the analysis was identification and categorization of all management deficiencies associated with the primary management functions of SEA's. The results of the analysis are particularly important since they provide the first national picture of the frequency with which states have violated Title I regulations and program criteria.

On the basis of review of Title I legislation and associated guidelines, the Audit Agency identified four SEA primary management functions, namely, state-level project approval, state monitoring of LEA's, state financial control, and state auditing of LEA's. The most frequent management deficiencies associated with each function were then identified and categorized. The deficiency categories found to be associated with state-level project approval were (a) failure to concentrate resources, (b) use of funds as general aid, and (c) failure to require adequate project justification. Deficiencies categorized under the monitoring function were (a) supplanting of state and local funds, and (b) expenditures beyond approved project scope. Associated with the financial control function were (a) incorrect use of letter-of-credit, (b) improper accounting, reporting, or internal controls, and (c) poor equipment management. State auditing deficiencies were subdivided into (a) low frequency, and (b) limited scope violations. The number of states that committed violations falling in each of those deficiency categories is illustrated in Table 3.1.

As part of their responsibility for approval of LEA project proposals, SEA's are required to ensure that Title I funds are concentrated on the priority needs of educationally deprived children living in high density low-income areas. Projects that fail to ensure that such concentration exists should not be approved by SEA's. Table 3.1 illustrates the fact that 21 of the 40 states (52.5 percent) audited between fiscal year 66 and 69 approved projects that failed to provide the required concentration of resources. Also approved by 7 of the states (17.5 percent) were projects that used funds as general school aid rather than to meet the specific needs of educationally disadvantaged children. Under the third major category of deficiencies associated with state project approval, namely, failure to require adequate project justification, 9 states (22.5 percent) were found to be in violation.

In regard to the state LEA monitoring function, 14 of the states audited (35.0 percent) permitted LEA's to use Title I funds to supplant rather than supplement local and state funds. Further, 18 of the states (45.0 percent) failed to prevent LEA's from diverting funds for purposes unrelated to Title I, and 8 of the states (20.0 percent) failed to prevent LEA's from obligating funds beyond the fiscal year plus two-month period specified by regulations (see Table 3.1).

States and LEA's are required by U. S. Treasury Circular No. 1075 to draw authorized cash as close to daily needs as administratively possible through use of a letter-of-credit. As indicated in Table 3.1, 20 of the states (50.0 percent) incorrectly applied or allowed incorrect application of letter-of-credit procedures. State financial control was also in violation of the regulations in 32 of the states (80.0 percent) in regard to improper accounting, reporting, or internal controls, and in 15 of the states (37.5 percent) poor equipment management was permitted.

Although Title I regulations require SEA's to take appropriate measures to ensure that audit programs are developed and implemented in

TABLE 3.1

Results of HEW Audits of 40 States, FY 66-69

Management Functions and Associated Deficiencies	No. of States with Deficiency	Percent of Deficiencies	Percent of Deficiencies by Management Function
Approval of LEA Projects			20.6
° Failure to Concentrate Resources	21 (52.5%)	11.7	
° Use of Funds as General Aid	7 (17.5%)	3.9	
° Failure to Require Adequate Project Justification	9 (22.5%)	5.0	
Monitoring of LEA Activities			22.4
° Supplanting of State and Local Funds	14 (35.0%)	7.8	
° Expenditures beyond Approved Project Scope			
Diversion of Funds	18 (45.0%)	10.1	
Delayed Expenditure	8 (20.0%)	4.5	
Financial Control			37.5
° Incorrect Use of Letter-of-credit	20 (50.0%)	11.2	
° Improper Accounting, Reporting, or Internal Controls	32 (80.0%)	17.9	
° Poor Equipment Management	15 (37.5%)	8.4	
Auditing LEA's			19.5
° Low Frequency	11 (27.5%)	6.1	
° Limited Scope	24 (60.0%)	13.4	

accordance with generally accepted standards, 11 of the states (27.5 percent) failed to audit LEA's frequently enough and 24 of the states (60.0 percent) performed audits that were of limited scope or quality (Table 3.1). Most state audits of LEA's failed to determine adequately whether expenditures qualified for Title I support or whether management practices complied with Title I regulations.

The percent of total deficiencies associated with each management function appears in column three of Table 3.1. On the basis of those figures, it can be concluded that the areas of management in which violations most frequently occur are (in order of frequency) state financial control (37.5 percent), state surveillance of LEA's (22.4 percent), state approval of LEA projects (20.6 percent), and state audits of LEA's (19.5 percent).

Disregarding the major management functions, the percentage of the total number of audit exceptions by deficiency category appears in column two of Table 3.1. Those percentages indicate that 64.3 percent of the deficiencies can be classified into five audit-exception categories, each of which had 10 percent or more of the violations. The categories are (a) improper accounting, reporting, or internal controls (17.9 percent), (b) LEA audits of limited scope (13.4 percent), (c) failure to concentrate resources (11.7 percent), (d) incorrect use of letter-of-credit (11.2 percent), and (e) diversion of funds (10.1 percent).

Although the HEW analysis and the Washington Research Project differed in terms of research staff, methodology, and focus, they did use the same data base and they reached the same major conclusion; namely, as of FY 69, Title I had not yet been implemented as intended by Congress and detailed by the enabling Act. The differences that do appear between the findings of the two studies reflect a difference in emphasis more than a difference in results. The Washington Research Project was funded and conducted by groups outside the federal establishment that were concerned with the effects of Title I mismanagement on the intended beneficiaries of the Act, the poor children in the nation. They therefore emphasized those violations of regulations that tend to deny poor children their legislated benefits. The HEW analysis was conducted by analysts entrenched in the federal establishment and concerned with the identification of all mismanagement practices, particularly those relating to the mismanagement of the federal dollar. The HEW analysis therefore emphasized the frequency of mismanagement practices, and tended to focus less on the impact of those practices on participating children.

A comparison was made of the major deficiency categories reported by both studies. The results of the comparison indicated that both reports identified similar management deficiencies. All major categories of deficiencies, except one, were discussed at some level of detail in both reports. The one exception was the lack of parent and community involvement identified by the Washington Research Project but not mentioned in the HEW analysis. The HEW analysis did not identify that violation of the regulations presumably because data on parent and community involvement are generally not readily available at State Title I Coordinators' offices.

Rather, as pointed out by the Washington Research Project, interviews at the local level with school personnel, community groups, and parents of Title I children are necessary to identify the general lack of parent and community involvement in Title I projects.

Early Management Context

Many of the HEW audits that formed the basis of both the Washington Research Project report and the HEW analysis were conducted during the early years of Title I operation. Those years were formative ones -- years when the administrative structure required by the enabling legislation was under development. During that formative period, management performance and program operation were understandably less than ideal. Nevertheless, states and LEA's were held accountable for compliance to regulations and guidelines. Since both of the management reviews discussed to this point did include audits conducted during those formative years, it seems appropriate to briefly point out some of the circumstances under which early mismanagement occurred.

Title I enabling legislation was quickly passed and signed into law in April of 1965. The educational establishment was unprepared for its swift passage. The Act provided a unique approach to attacking the educational problems associated with poverty. It did not, however, legislate the administrative capability for rapid implementation. New management roles were created at all levels of the educational management structure, roles that required time to develop.

USOE's new role as the organization with overall responsibility for program operation was immediately hindered by its limited staff, resources, and its lack of leverage over state and local educational agencies. Regulations and program criteria had to be developed, a monitoring and technical assistance role had to be assumed, and funds had to be allocated to the states. During those early years, USOE was required to expend considerable resources and energy grappling with the unique administrative problems associated with initial program implementation.

The states were similarly unprepared for their new management role. They were required to review and approve local projects, evaluate the impact of their state program, monitor and provide technical assistance to LEA's -- new activities for most states. Problems were made more severe by the fact that states had to perform those activities with minimum guidance since regulations and program guidelines were in their preliminary development stage. Further, SEA's were required to broaden their auditing activities and adapt their old or develop new financial and property accounting systems. Many of them also lacked the leverage needed to enforce LEA compliance with Title I regulations.

LEA's, too, faced many new problems during initial implementation of the program. They were unaccustomed to justifying and seeking SEA approval for individual local projects. Required coordination with Community Action Agencies, nonpublic schools, and local parent advisory councils created new relationships and resulted in problems that local administrators were often unprepared to handle.

Clearly, the above described context of Title I administration in the initial years of operation mitigate the seriousness of early regulation and program criteria violations. The important questions of whether this context has changed and whether Title I management has improved, are addressed in the following paragraphs.

Recent Management Evaluation

The Washington Research Project identified, categorized, and illustrated various types of Title I management deficiencies. The HEW analysis supported many of the Washington Research Project's findings, emphasized certain fiscal management deficiencies, and indicated the frequency with which states were found to be in violation of Title I regulations and guidelines. The following paragraphs discuss an analysis of more recent HEW audit reports that was conducted by American Institutes for Research (AIR) staff. The primary objective of the study was to carry management evaluation one step further by comparing early Title I management performance with that of later years in an attempt to identify management performance trends. Management deficiencies identified in HEW audit reports conducted between fiscal year 1969 and 1971 were classified according to management functions, their frequencies were tallied, and a comparison was made between these more recent deficiencies and those reported by the earlier HEW analysis.

The analysis was based upon the Schedule of Audit Reports Outstanding for the Period April 71 through June 71 which was obtained from USOE's Office of Administration, Management Evaluation Division. The Schedule lists audits that have been completed but have not been closed by settlement and may, therefore, present a somewhat more negative picture than will ultimately emerge. Reports are listed by state with audit exceptions summarized under each state.

An attempt was made to assign each identified exception to one of the same deficiency categories used in the earlier HEW analysis. Assignment of deficiencies to major management functions was completed with little difficulty; however, assignment to specific deficiency categories within major management functions proved to be difficult. The lack of HEW definition specificity and the brevity of the exception descriptions in the Schedule required that considerable judgment be exercised during assignment of exceptions to the specific deficiency categories associated with major management functions. For this reason, conclusions in regard to specific deficiencies should be considered less reliable than conclusions pertaining to the general categorization of deficiencies under major management function.

The results of analysis of 51 unsettled FY 69 to FY 71 State Audit Reports representing 37 states are presented in Table 3.2. It should be noted that because of the difficulties encountered during assignment of

TABLE 3.2

Results of HEW Audits of 37 States, FY 69-71

Management Functions and Associated Deficiencies	No. of Deficiencies	Percent of Deficiencies	Percent of Deficiencies by Management Function
Approval of LEA Projects			29.5
° Failure to Concentrate Resources	8	3.1	
° Use of Funds as General Aid	33	12.6	
° Failure to Require Adequate Project Justification	36	13.8	
Monitoring of LEA Activities			12.2
° Supplanting of State and Local Funds	3	1.1	
° Expenditures beyond Approved Project Scope			
Diversion of Funds	8	3.1	
Delayed Expenditures	21	8.0	
Financial Control			46.4
° Incorrect Use of Letter-of-credit	24	9.2	
° Improper Accounting, Reporting, or Internal Controls	72	27.6	
° Poor Equipment Management	25	9.6	
Auditing of LEA's			11.9
° Low Frequency	4	1.5	
° Limited Scope	27	10.4	

exceptions to deficiency categories, the numbers in column one of Table 3.2 refer to deficiencies and not states as in Table 3.1. Because of this problem, the following analysis is based upon comparison of the proportion of deficiencies associated with the various deficiency categories rather than on the percentage of states within each category for the two periods of interest.

Trends in Management Deficiencies

As of June 1971, all of the 261 deficiencies identified in Table 3.2 were still outstanding; i.e., they were uncorrected. Clearly, violations of Title I regulations and program criteria have continued since 1969 in at least 37 states and this situation cannot be explained away either in terms of the newness of the Title I program or the short time available to adapt management systems to its requirements. After six fiscal years of Title I funding, the program has not yet been implemented nationally as intended by Congress. In what is presumably an attempt to correct this situation the Commissioner of Education recently expressed his intent to announce some 26 state audit disallowances and request refunds averaging between one and one and a half million dollars per state of misspent appropriations.

Comparison of column three of Table 3.2 with the same column in Table 3.1 suggests that although state administration of Title I apparently has not improved much over the years, there have been some shifts in the proportion of deficiencies in various categories and in the pattern of major management functions under which the most frequent exceptions fall. It is unknown whether these shifts are a result of changes in the focus of audits or whether they reflect actual changes in management practices, or both.

During the early years of implementation of the program, fiscal years 66-69, approximately 37.5 percent of all the violations were associated with poor fiscal control. More recent audits indicate that fiscal control still accounts for the greatest proportion of violations; moreover, the proportion of violations in that deficiency category has increased to 46.4 percent. In later years the proportion of deficiencies associated with LEA project approval has also increased from 20.6 percent in early audits to 29.5 percent in later audits. Balancing these increases, have been decreases in the proportion of violations in monitoring and auditing of LEA's -- there was a 10.1 percent decrease in monitoring and a 7.6 percent reduction in auditing violations.

Comparison of the proportion of exceptions across management categories is also quite instructive (cf: column two, Tables 3.1 and 3.2). The HEW analysis of fiscal year 66-69 audits indicated that the highest proportion of violations, 17.9 percent, were categorized under improper accounting, reporting, or internal controls. The later audits also identified that category as the one into which most violations fall; however, the proportion increased from 17.9 percent in early years to 27.6 percent in later audits. Similar comparisons suggest that there has been an increase in the proportion of violations in regard to use of Title I funds as general aid, failure to require adequate project justification, delay of expenditures, and poor equipment management. There has been a corresponding decrease in the proportion of violations in the categories of funds concentration, use of funds to supplant rather than supplement state and local funds, monitoring to prevent diversion of funds, use of letter-of-credit, and LEA audits (cf: Tables 3.1 and 3.2). Again, the reader is reminded that these shifts may be real changes in management practices and/or may be due to changes in the focus of the audits.

In summary, comparison of early and later HEW audits indicates that states have failed to comply with Title I regulations and criteria since the inception of the program. Further, little, if any improvement in the situation was evidenced through the years. In point of fact, state financial control (accounting, reporting, internal control, and equipment management) and approval of LEA projects (obtaining adequate project justification and assuring that funds are not used as general aid) have worsened. As of June 1971, at least 37 of the states audited between fiscal years 1969 and 1971 were still in violation of Title I regulations, guidelines, and program criteria. This fact is even more astounding when one considers that not all states were audited during that period.

Additional information relating to state administration of the Title I program is provided by USOE's State Management Review Program. Since 1969, a team of from 7 to 12 professionals has been conducting in-depth reviews of state Elementary and Secondary Education Act Title I, II, III, and V management. Approximately one week is spent at each site for review of state planning, evaluation, project administration, personnel management, financial management, dissemination practices, and information management. By late 1970, management review final reports were available for 28 states and 2 territories.

A recent analysis of those 30 reports indicated that they contained a total of 1,901 recommendations for improvement of state Title I, II, III, and V management (USOE, A study of the State Management Review Program, June 1971). The reports had an average of 63 suggestions for improvement, with a range from 21 to 111 recommendations. Although the study did not specify the percentage of violations that related specifically to Title I, it can be assumed that since Title I is the largest of the programs reviewed many of these recommendations refer to Title I administration. If this assumption is correct, then the figures clearly support the conclusions made on the basis of the HEW audits that state administration of the Title I program is not in compliance with the Act, regulations, and program criteria.

The recommendations derived from the 30 reports are tabulated by major management function in column one of Table 3.3. The percentage of violations falling in each category are in the adjacent column. Those columns indicate that approximately two-thirds of the management deficiencies identified fell into four administrative areas: project administration (21.4 percent), planning (16.8 percent), evaluation (14.2 percent),

TABLE 3.3

Status of Implementation of USOE Recommendations

Management Functions	Recommendations							
	Total in 30 Reports		Sample Results					
	No.	% of Total	No.	% of Total	% Implemented	% In Process	% Planned	% Not Planned
Planning	320	16.8	93	17.0	26.9	45.1	18.3	9.7
Evaluation	271	14.2	83	15.2	48.2	36.1	9.6	6.0
Project Administration	407	21.4	125	22.9	48.0	36.0	12.0	4.0
Personnel Management	224	11.8	67	12.2	31.3	35.8	20.9	11.9
Financial Management	210	11.0	63	11.5	49.2	34.9	7.9	7.9
Dissemination	285	14.9	73	13.3	38.3	17.8	38.3	5.5
Management Information Systems	163	8.6	43	7.8	41.8	41.8	7.0	9.3
Miscellaneous	21	1.1	-	-	-	-	-	-
Totals	1901		547		40.8	35.4	16.4	7.3

and dissemination (14.9 percent). Since the management function categories used in the State Management Review study do not clearly correspond to those used for the two HEW audit report studies, comparison of findings is difficult. Nevertheless, it is apparent that the results of the three HEW audit report analyses and USOE study are in general agreement that state and LEA management performance is in drastic need of improvement.

Some indication of the effect of recommendations on state management was provided by a follow-up study of the 28 states reviewed by USOE. All 28 states were contacted to determine the status of implementation on two different management functions. The sampling approach used resulted in eight states being included in the sample for each of the seven major management functions. The sampling included a total of 547 recommendations, 28 percent of the total made in the reports. Columns three and four of Table 3.3 indicate the number and percentage of recommendations studied, respectively. Comparison with the population figures to the left of those columns indicates that the distribution of sample recommendations closely resembles that of the population.

The column totals in Table 3.3 indicate that 40.8 percent of the recommendations made to the states were implemented at the time of follow-up, 35.4 percent were in the process of being implemented, implementation was planned for 16.4 percent, and 7.3 percent were not being implemented. Seventy-six percent of all the recommendations in the sample were either implemented or in the process of being implemented. This is the first evidence that states are becoming responsive to the many administrative recommendations made to them by various management review teams.

Conclusions

The Washington Research Project report identified various types of Title I regulation and program criteria violations made by states and their local education agencies. The HEW analysis of its own audit reports supported the conclusions made by the Washington Research Project and indicated the alarming frequency of noncompliance with regulations. An analysis of HEW state audits since fiscal year 1969 pointed out that the situation has not materially changed and, in some cases, has worsened. USOE's own management reviews of the states tend to support the conclusions made on the basis of the HEW audits.

The one inescapable conclusion that can be made on the basis of those findings is that, nationally, the Title I program has never been implemented as intended by Congress and defined in the Act's regulations and program criteria. Even as late as June 1971, 37 states (74 percent) were known to be in noncompliance with the law.

That conclusion has major implications for the program evaluation that follows. What is actually evaluated in later sections of this report is not Title I as described in regulations and program guidelines. Rather, it is a program modeled on what was intended, but not in compliance with major regulations.

CHAPTER 4: ESEA TITLE I CONTEXT

The major objective of this chapter is to describe the context in which the Title I program operates. First, a national picture of school-aged children is presented in terms of their numbers, ethnic distribution, economic background, needs, and concentration in public and minority group impacted schools. That information is used for comparison purposes in this and following chapters. The remainder of the chapter deals with the salient characteristics of Title I districts, schools, children, and their families and teachers. The intent is to provide the necessary background for later chapters which discuss the needs of children in Title I schools, characteristics of participating and nonparticipating students in those schools, resource allocation, and the impact of the program on participating children.

The two primary sources used for data relating to the nation's school-aged children were Profiles of Children, 1970 White House Conference on Children (Root & Cata, 1970) and Projections of Educational Statistics to 1979-80 (Simon & Fullam, 1971). The first document is a summary of nationally representative data collected by various branches of government including the U. S. Department of Labor, Bureau of Statistics; and U. S. Department of Health, Education, and Welfare (HEW), Office of Education (USOE). The second source is based upon U. S. census data and information collected by USOE's National Center for Educational Statistics. Both sources are considered by many to be the best possible for current information about our nation's schools and school-aged children.

Only two data sources were available at the time of writing that provided a nationally representative picture of Title I districts, schools, teachers, and children. They were the fiscal year (FY) 1968 and FY 69 Surveys of Compensatory Education sponsored by USOE's Bureau of Elementary and Secondary Education (USDHEW/OE, Education of the Disadvantaged, April 1970; Glass, August 1970). A third possible source was the 1970 Elementary School Survey which collected some data that were similar to the earlier compensatory education surveys. Unfortunately, the data from that survey were not adequately analyzed in time for inclusion in this report. The characteristics of the two available data sources and their methodology were discussed in an earlier chapter. Nevertheless, some of the limitations of those two surveys will be reiterated here to clarify the characteristics of the population to which their data can be properly generalized.

Both surveys of compensatory education collected data from a nationally representative sample of participating Title I school districts, their elementary schools, and their children and teachers in grades two, four, and six. The two surveys projected their sample data to the population of Title I districts with enrollments of at least 300 students, their elementary schools, teachers, and pupils in grades two, four, and six. That population of districts represents almost 90 percent of all public school districts that enroll 300 or more students and about 65 percent of all districts in the continental United States. Within those districts there are approximately 35,000 schools which enroll about 6,000,000 students in grades two, four, and six.

Analysis of the sampling procedures used in both compensatory education surveys suggests several limitations in their data. First, since no attempt was made to collect data on a representative sample of nonparticipating districts, comparison between participating and nonparticipating districts is not possible. That limitation is partially alleviated in this report by the provision of some data on schools and school children in general. Second, nonparticipating districts during the years of those two surveys were often Southern districts that were ineligible for Title I funds because they failed to comply with Title VI of the Civil Rights Act of 1964. The characteristics of those Southern schools, then, are not represented in data provided by the surveys. Third, districts with enrollments of less than 300 students were not included in the surveys' samples. Since small districts are usually in rural areas, small rural districts tend to be under-represented in the samples. Fourth, since only public schools were surveyed, characteristics of nonpublic school children are represented by the data only in those cases where they participated in Title I programs within public school facilities. Fifth, only elementary schools in participating districts were surveyed and only grades two, four, and six were included. Survey data, therefore, provide no information about secondary schools with Title I programs, and elementary schools are represented only by grades two, four, and six. These limitations must be kept in mind when interpreting the presented data.

Characteristics of the Nation's School-aged Children

The intent of this section is to provide a brief sketch of the characteristics of the nation's school-aged children. This information is presented primarily to enable comparison of all children to the children in Title I districts whose characteristics are described throughout the remainder of this chapter. The focus will be on the characteristics of the nation's school-aged children since 1965, the year that the Title I program began operation. Particular emphasis will be placed on later years since most of the nationally representative data on Title I children that will be compared to total population information were collected during fiscal years 1968 and 1969.

School-aged Children

The number of school-aged children (5 through 17) within the continental United States has regularly increased from approximately 50.3 million in FY 66 to 52.8 million in FY 70 (see Table 4.1). That growth amounts to a five percent increase in school-aged children between FY 66 and FY 70. During the same period there was an annual increase in public school enrollment and a decrease in nonpublic school enrollment. Between

TABLE 4.1

U. S. School-aged Children (5-17), those Enrolled in Public/Nonpublic Schools and the Number of Economically Disadvantaged Children Used to Calculate Title I Authorizations for LEA's

U. S. Children	Fiscal Year				
	66	67	68	69	70
School-aged (5-17)[1]	50,312,000	51,004,000	51,737,000	52,389,000	52,841,000
Enrolled in Public Schools[1]	42,173,000	43,039,000	43,892,000	44,944,000	45,619,000
Enrolled in Nonpublic Schools	6,300,000	6,300,000	6,000,000	5,800,000	5,700,000
Number of economically disadvantaged children used to calculate Title I authorizations[2]	4,948,140	4,948,140	4,948,140	4,948,140	4,948,140

1. From Simon & Fullam, 1971.
2. The numbers of children counted in other eligible categories (AFDC, Neglected or Delinquent, Foster Homes) appear in Table 6.1. Data from USDHEW/OE History of Title I ESEA (1969) and USOE's Division of Compensatory Education (official figures).

FY 66 and 70 public school enrollment increased by about 3.5 million and nonpublic enrollment decreased by approximately 600,000. Those figures represent an 8.2 percent increase in public school enrollment and a 9.5 percent decrease in nonpublic school enrollment. Public school enrollment has apparently increased at a greater rate (8.2 percent) than has the school-aged population (5.0 percent). In absolute numbers the total increase in public school enrollment (3,446,000) exceeds the increase in school-aged children (2,529,000) plus the decrease in nonpublic enrollment (600,000), suggesting that more children are enrolling and remaining in public schools than would be anticipated by the school-aged population increase and the apparent shift from nonpublic to public schools.

The fourth row of Table 4.1 indicates the number of children used to calculate the total authorization that local educational agencies (LEA's) were eligible to receive for their economically deprived children (numbers in other eligible categories are given in Table 6.1). Those figures are based upon the 1960 census and consequently remained the same through 1970. Although there has been a 5 percent increase in the total number of school-aged children and an 8.2 percent increase in public school enrollment, there has not been a corresponding increase in the number of children used to calculate LEA authorizations for children from families below the poverty line. As will be pointed out in a later chapter, not only have the figures used for authorization calculation remained the same for LEA economically disadvantaged programs through the years, but actual LEA appropriations provided by the annual appropriations acts have always been less than the authorizations, except for FY 66.

Ethnic Group Distribution

The ethnic group distribution of public school children in the continental United States during FY 1969 is presented in columns 1 and 2 of Table 4.2. Approximately 20 percent of the children in public schools during that fiscal year were from minority groups. Fourteen and one-half percent of all the public school students were Black, 4.6 percent were Spanish-surnamed, 0.4 percent were Oriental, and 0.4 percent were American Indian. During FY 69 there were approximately 8.7 million minority group children in public schools with 72.6 percent of them classified as Black, 23.1 percent Spanish-surnamed, 2.2 percent Oriental, and 2.1 percent American Indian.

Columns 3 and 4 of Table 4.2 indicate the concentration of ethnic groups in schools with 0 to 49 percent minority enrollment and 50 to 100 percent minority enrollment. The majority of Black (76.6 percent) and Spanish-surnamed (54.7 percent) children during FY 69 were concentrated in schools that had a 50 to 100 percent minority enrollment, while the majority of Oriental (72.2 percent), American Indians (61.7 percent) and whites (97.9 percent) attended schools that had enrollments of less than 50 percent minority children. Nationally, if integration had been completed in 1969, children of all ethnic groups would have been

TABLE 4.2

Ethnic Distribution of Public School Students attending Schools with Various Concentrations of Minority Students in Fiscal Year 1969[1]

Ethnic Group	Students, Continental U.S. Number	Students, Continental U.S. Percent of Total	% Minority Concentration 0 - 49 % Minority	% Minority Concentration 50 - 100 % Minority
Black	6,282,173	14.5	23.4	76.6
Spanish-surnamed	2,002,776	4.6	45.3	54.7
Oriental	194,022	0.4	72.2	27.8
American Indian	177,464	0.4	61.7	38.3
Non-minority	34,697,133	80.0	97.9	2.1
Total	43,353,568			

1. Data derived from Root & Cata, 1970.

attending schools that had a minority enrollment of approximately 20 percent. Table 4.2 clearly indicates that segregation and not integration was the rule for Blacks and Spanish-surnamed students during FY 69.

Poor Children

The number and percent of school-aged children falling below the poverty line in FY 70 according to Bureau of Census definition and data are illustrated in Table 4.3. During that year 6.5 million or 13.5 percent of all school-aged children were from families below the poverty line. The figure used by USOE to determine entitlements to LEA's for their economically disadvantaged school children, however, was approximately 5.0 million -- 1.5 million short of the actual number of children below the poverty line (see Table 4.1). Again, this was due to the use of 1960 census data in calculating LEA entitlements.

Of the 6.5 million school-aged children from poverty families in FY 70, 3.9 million (59.8 percent) were classified as white while 2.5 million (38.5 percent) were classified as Black. Table 4.3, however, points out that 38.8 percent of the total population of school-aged Black children were from families below the poverty line while only

TABLE 4.3

Ethnic Distribution of School-aged Children (6-17 years) below the Poverty Line, Fiscal Year 1970[1]

Race	Total No. Children	No. below Poverty Line	% below Poverty Line
Black	6,468,000	2,511,000	38.8
White	41,147,000	3,900,000	9.5
All Children	48,210,000	6,522,000	13.5

1. Data derived from Root & Cata, 1970.

9.5 percent of the total number of white children were from similarly poor families. As indicated by Table 4.3, although Black children composed only 13.4 percent of the school-aged population in FY 70, they accounted for 38.5 percent of the total number of school-aged children from poor families, and 38.8 percent of all Black school-aged children, as opposed to 9.5 percent of all white children who were from families with incomes below the poverty line. Black children are clearly disproportionately represented among school-aged children from poor families.

Educational Need

With respect to educational need, Table 4.4 presents the percentage of white and Black children falling below, at, and above their expected grade level as determined by their age in October 1969. Compared to white children, a greater proportion of Blacks are below grade level, a smaller proportion are at grade level, and a slightly larger proportion are above grade level. Black children appear to have a relatively greater educational need than do white children in the nation's schools.

Another indication of need for compensatory education nationally is illustrated in Table 4.5. In 1969, 92 percent of the nation's elementary schools reported having some pupils with severe reading problems. Further, 14 percent of all the children in elementary schools had such problems while 20 percent of children from low-income families had similar problems. Table 4.5 also points out that a larger proportion of children in large city elementary schools (25 percent) had more severe reading problems than did children in elementary schools in general. Clearly, children from low-income families, and those in large city schools, had the greatest need for remedial reading programs in 1969.

TABLE 4.4

Ethnic Distribution of U. S. School-aged Children (6-13) below, at, and above Grade Level in October 1969[1]

Students	White	Black
Below grade level	16.5	24.2
At grade level	74.0	65.2
Above grade level	9.5	10.6

1. Data derived from Root & Cata, 1970.

TABLE 4.5

Extent of Reading Problems in the Continental United States, 1969[1]

	Elementary Schools	Students		
		Elem. School	Large City	Low-income
Percent with severe reading problems	92	14	25	20

1. Data derived from Root & Cata, 1970.

Resource Allocation

Now that an overview of the nation's children has been sketched and some of their needs identified, national resource allocation will be discussed. Table 4.6 illustrates the federal, state, and local contribution to elementary and secondary education. Over the years, local funds have accounted for approximately 48 percent of expenditures for elementary and secondary education, state funds have covered approximately 32 percent of the costs, while federal support has averaged about 7.0 percent. Fiscal year 1970 data from USOE's Consolidated Program Information Report (CPIR) indicated that more than half (55.9 percent) of the federal support

TABLE 4.6

Estimated Elementary and Secondary School Expenditures in Billions of Current (1970) Dollars and Percent of Total by Source of Funds[1]

Source of Funds	Fiscal Year 66	67	68	69	70
Federal					
Dollars	2.2	2.5	3.0	2.9	3.0
Percent	7.3	7.7	8.0	7.3	6.6
State					
Dollars	9.6	10.3	12.1	13.1	15.1
Percent	31.8	31.9	32.4	32.8	33.0
Local					
Dollars	14.6	15.6	18.0	19.6	22.8
Percent	48.3	48.3	48.1	49.1	49.9
Other					
Dollars	3.8	3.9	4.3	4.3	4.8
Percent	12.6	12.1	11.5	10.8	10.5
Total Dollars	30.2	32.3	37.4	39.9	45.7

1. Data from Simon & Fullam, 1971; FY 67 data from National Center for Educational Statistics (personal communication).

for the nation's schools is derived from ESEA Title I allocations. Table 4.6 clearly illustrates that as the cost of education has increased, and as schools have become more aware of the need for compensatory education, the federal proportion of school support has decreased.

Overview

A brief summary is appropriate at this point. In 1969 there were approximately 43.4 million children in the nation's public schools, 20 percent of whom were from minority groups (14.5 percent Black, 4.6

percent Spanish-surnamed, 0.8 percent other). Seventy-seven percent of all the Blacks in public schools that year and 55 percent of the Spanish-surnamed were enrolled in schools that had minority concentrations ranging from 50 to 100 percent. In 1970 6.5 million school-aged children (13.5 percent) came from families with incomes below the poverty line. Thirty-nine percent of the Blacks that year were from poor families while only 9.5 percent of white children came from such families. In 1969 a greater proportion of Black than white children were below grade level and a smaller proportion of Blacks were at grade level. Also during 1969, 92 percent of the nation's elementary schools reported that they had some children with severe reading problems. Fourteen percent of all the nation's public elementary students in 1969 had severe reading problems, while 25 percent of those in large city schools, and 20 percent of all the children from low-income families, had such problems. Through the years since 1965, the state and local proportion of elementary and secondary school support has remained relatively constant at 32 percent and 48 percent, respectively. The federal proportion has averaged about 7 percent. This, then, was the condition of our schools and children up to FY 70.

Characteristics of Title I Districts, Schools, Children, and Teachers

The following paragraphs describe the condition of the nation's Title I districts, schools, children, and teachers during FY 68 and 69. Data discussed are, in most cases, representative of participating Title I districts, their public elementary schools, and the children and their teachers in grades two, four, and six. Nonparticipating districts, many Southern schools not in compliance with Title VI of the Civil Rights Act of 1964, small rural districts, nonpublic school children receiving services at their home schools, and secondary schools are not represented by the data reviewed. Presented data are, however, representative of approximately 90 percent of all public school districts that enroll 300 or more students.

Title I District Characteristics

The FY 68 and FY 69 Surveys of Compensatory Education report the only currently available comprehensive description of Title I districts apart from their Title I involvement. Other national surveys, such as those conducted by USOE's Division of Compensatory Education and reported in Title I Annual Statistical Reports, focus on the operation of Title I but do not detail district characteristics apart from their involvement in the program. The FY 68 Survey of Compensatory Education provides district-level data that were collected by a supplemental survey conducted during January of 1969. Those data are therefore descriptive of the characteristics of Title I districts during FY 69.

Low-income Children. As indicated in Table 4.7, there were 10,979 participating districts that enrolled 300 or more students in FY 69.

TABLE 4.7

Concentration of Resident Low-income Children among Participating Districts Enrolling 300 or more Pupils, FY 69 (Percentages by Column for 1st and 2nd Columns, by Row for Remainder of Table) -- Projected from Representative Sample of Districts[1]

Districts/Children	Children		Concentration of Resident Low-income Children					Totals by Row
	Resident	Public School	Up to 499	500-999	1000-3999	4000-5999	6000 plus	
All districts enrolling 300 or more students	48,176,412	41,300,473	8,317 (75.8%)	1,290 (11.7%)	1,176 (10.7%)	83 (0.8%)	113 (1.0%)	10,979 (100.0%)
∘ Total low-income children			1,234,087 (18.0%)	876,175 (12.8%)	2,199,650 (32.1%)	405,018 (5.9%)	2,128,820 (31.1%)	6,843,750 (100.0%)
Large districts (enrolling 2,500 or more)	39,916,750 (82.9%)	33,666,209 (81.5%)	1,449 (13.2%)	741 (6.7%)	1,107 (10.1%)	83 (0.8%)	113 (1.0%)	3,493 (31.8%)
∘ Low-income children in the district			333,349 (4.9%)	517,322 (7.6%)	2,129,390 (31.1%)	405,018 (5.9%)	2,128,820 (31.1%)	5,513,899 (80.6%)
Small districts (enrolling 300 - 2,499)	8,259,662 (17.1%)	7,634,264 (18.5%)	6,868 (62.6%)	549 (5.0%)	69 (0.6%)			7,486 (68.2%)
∘ Low-income children in the district			900,738 (13.2%)	358,853 (5.2%)	70,260 (1.0%)			1,329,851 (19.4%)

---

[1] Derived from USDHEW/OE, Education of the Disadvantaged, April 1970.

Within those districts there were 48.2 million school-aged children, 41.3 million (85.7 percent) of whom were enrolled in public schools. Those 41.3 million children accounted for approximately 92 percent of all the students enrolled in public schools during FY 69 (cf: Tables 4.1 and 4.7). Within those districts there were 6,843,750 low-income children, 1,895,610 more than the number on which LEA Title I authorizations were based in fiscal year 1969 (see Table 4.1). The majority of districts surveyed (68.2 percent) enroll between 300 and 2,499 students. About 81.5 percent of the children enrolled in public schools, however, were located in large districts which comprised only 31.8 percent of all districts. Similarly, large districts had 80.6 percent of all the children from low-income families. Clearly, the majority of public school students and children from low-income families are concentrated in a small number of large districts.

Table 4.7 also illustrates the number of districts that had various concentrations of resident children from low-income families in FY 69. Seventy-six percent of all districts had fewer than 500 resident low-income children. The majority, however, were small districts with enrollments ranging from 300 to 2,499 students. Districts that were small and had fewer than 500 resident low-income children had only 13.2 percent of all low-income children enrolled in them. The majority (68.1 percent) of children from low-income families were enrolled in large districts that had concentrations of at least 1,000 resident low-income children. Those districts were in the minority, comprising only 11.9 percent of the total number of districts. Thus during FY 69 most children from low-income families were enrolled in relatively few large districts that had medium to high concentrations of resident low-income children.

Expenditures. The distribution of low-income children within districts with different levels of regular per-pupil expenditures during FY 69 is depicted in Table 4.8. Data are from the FY 68 and FY 69 Surveys of Compensatory Education, but both sets refer to FY 69 since the FY 68 survey reported data that were collected in a supplemental survey conducted in January 1969. The differences in percentage distribution between the two sets of data are probably attributable to the slight differences in the two surveys' sample, methodology, and questionnaire response rates. Giving equal weight to both sets of data, it can be concluded that somewhere between 32.0 and 35.6 percent of the participating districts had low regular per-pupil expenditures, approximately 48 percent of the districts had moderate per-pupil expenditures, and between 16 and 20 percent of the districts were high expenditure districts. In terms of concentration of low-income children in those districts, 90 percent were residents within the boundaries of the low and moderate expenditure districts. As will be pointed out in the chapter on resource allocation, the national average per-pupil expenditure from non-federal sources during FY 69 was approximately $555. Table 4.8 shows, then, that the majority of low-income children received their education in districts that spent less than the national average during the 1968-69 school year.

Summary. This overview provides the following picture of the distribution of low-income children within Title I districts during FY 69.

Table 4.8

Distribution of Participating Title I Districts Enrolling 300 or more Students and Number of School-aged Children from Low-income Families by Regular Per-pupil Expenditures -- Projected from a Representative Sample of Districts, FY 69

Districts/Children	Regular Per-pupil Expenditures Low Under $425	 Moderate 425-624	 High 625-over	Total
Title I Districts (FY 68, Supplemental Survey)[1]	3,372 (32.0%)	5,028 (47.7%)	2,144 (20.3%)	10,544 (100.0%)
Title I Districts (FY 69 Survey)[2]	3,233 (35.6%)	4,406 (48.6%)	1,436 (15.8%)	9,075 (100.0%)
Low-income School-age Children (FY 68 Supplemental Survey)[1]	2,258,000 (45.9%)	2,170,000 (44.1%)	489,000 (10.0%)	4,917,000 (100.0%)

1. USDHEW/OE, Education of the Disadvantaged, April 1970.
2. Glass, August 1970.

The majority (90 percent) of children from low-income families were concentrated in low and moderate regular per-pupil expenditure districts. Sixty-eight percent of all low-income children were enrolled in 11.9 percent of all districts which were characterized as large districts with medium to high concentrations of resident low-income children. Poor children in FY 69 tended to be enrolled in a relatively few large districts that were highly concentrated with resident low-income children and had low to moderate regular per-pupil expenditures.

Participating Schools in Title I Districts

The previous section described the context in which the Title I program operates in terms of the characteristics of participating districts. The following details some of the characteristics of participating schools within those districts. The focus is on the urbanism of those schools and their concentration of economically disadvantaged and minority group children. Only the characteristics of participating schools are discussed. Schools within Title I districts that do not operate Title I projects are not represented by these data.

Ethnic Group Concentration. The row totals of Table 4.9 illustrate the ethnic group concentration in Title I elementary schools in FY 68

TABLE 4.9

Ethnic Distribution of Title I Elementary School Children in Urban, Suburban, and Rural Schools, FY 68 (6,428,766 Students) and FY 69 (5,375,942 Students) -- Projected from Representative Sample of Districts

Ethnic Group	School Location			Row Totals
	Urban	Suburban	Rural	
White				
FY 68[1]	575,327 (9.0%)	2,464,492 (38.3%)	1,538,283 (23.9%)	4,578,102 (71.2%)
FY 69[2]	467,027 (8.7%)	1,032,707 (19.2%)	2,248,534 (41.8%)	3,748,268 (69.7%)
Black				
FY 68[1]	688,281 (10.7%)	368,015 (5.7%)	387,078 (6.0%)	1,443,374 (22.4%)
FY 69[2]	644,821 (12.0%)	127,241 (2.4%)	437,944 (8.2%)	1,210,006 (22.6%)
Other				
FY 68[1]	173,531 (2.7%)	142,752 (2.2%)	91,007 (1.4%)	407,290 (6.3%)
FY 69[2]	161,185 (3.0%)	124,920 (2.3%)	131,563 (2.5%)	417,668 (7.8%)
Column Totals				
FY 68	22.4%	46.2%	31.3%	100.0%
FY 69	23.7%	23.9%	52.5%	100.0%

1. Data derived from USDHEW/OE, Education of the Disadvantaged, April 1970.
2. Data derived from Glass, 1970.

and 69. During both years, Title I schools were composed of approximately 70 percent white, 22 percent Black, and 7 percent other ethnic group children. About 29 percent of the children in participating Title I schools were from minority groups. Comparison of those figures with the national distribution of public school children by ethnic group during FY 69 (Table 4.2) indicates that minority children are more concentrated in Title I schools (29 percent) than schools in general (20 percent). The other-than-Black minority group concentration in Title I schools is quite similar to the nation's schools in general. The Black minority concentration, however, is greater in Title I schools (22 percent) than it is in all the nation's schools (14.5 percent; cf: Tables 4.2 and 4.9).

The distribution of minority group children in Title I schools with various concentrations of minority group members as determined by the FY 69 survey appears in Figure 4.1. That figure indicates the variability in the concentration of minority children in Title I elementary schools. While Blacks composed 22 percent of the entire population of children in Title I elementary schools in 1969, during that same year 67 percent of the schools had a 10 percent or smaller concentration of Blacks and 13 percent of the schools had Black concentrations greater than 90 percent. If Title I schools were integrated by national standards, all of them would have a Black population of 14.5 percent and a minority population of approximately 20 percent (cf: Table 4.2). As Figure 4.1 indicates, this is clearly not the case. Only 27 percent of Title I schools had a Black concentration approaching the national percentage of school-aged Blacks, while 21 percent of the schools have concentrations greater than the national percentage. The above percentages of schools with various Black populations should be considered only approximate for, as can be seen from Figure 4.1, they sum, for unknown reasons, to a total of 119 percent. Raw data were unavailable for recomputation of these statistics.

FY 68 data indicate an even greater degree of segregation in Title I school classrooms. Approximately 83 percent of all pupils in Title I schools were enrolled in classrooms in which 90 percent or more of the children were of one race, either white or Black. Only about 17 percent of the children attended classrooms where the racial composition corresponded roughly to that of the total population of Title I pupils. Table 4.10 illustrates the distribution by ethnic group of those 83 percent that were attending classrooms that were predominantly of one race. Approximately 67 percent of all the children in Title I elementary schools were enrolled in classes that were more than 90 percent Black and 16 percent attended classes that were more than 90 percent white.

Also illustrated by the cell percentages in the ethnic group columns of Table 4.10 is the fact that in FY 68, 70.5 percent of all Black children in Title I schools were in classes that were more than 90 percent Black while only 0.2 percent of the white children were in such classes. Similarly, 86.1 percent of white children were in classes that were predominately white. Those figures point out that segregation tends to intensify as the unit of analysis is reduced from schools to classrooms. Within Title I schools Black children tend to be assigned to classrooms that have high concentrations of similar children while other ethnic group children tend to be assigned to classes that are predominantly white in composition.

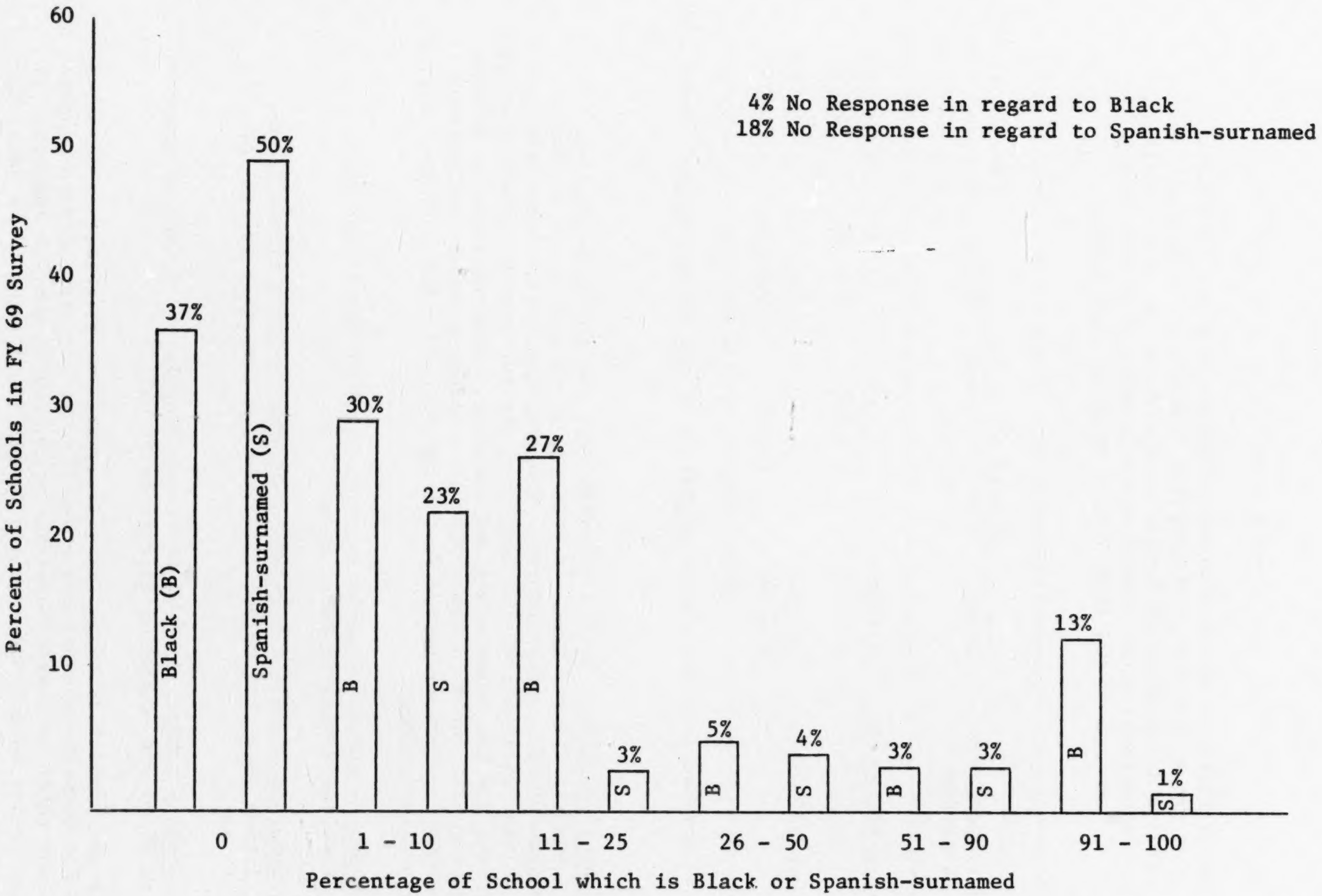

Fig. 4.1. Ethnic group concentration of schools (Glass, 1970)

Note: The percentage of schools with various concentrations of Black children sums to 119 percent for unknown reasons. The original data were unavailable for correction.

TABLE 4.10

Ethnic Distribution of Elementary School Students in Grades Two, Four, and Six in Segregated Classrooms -- Projected from a Representative Sample of Districts, FY 68.[1] (Cell Percentages under Ethnic Group Correspond to the Percentage of all that Ethnic Group in that Cell.)

Racial Composition of Classroom	Ethnic Group			Row Total & Percent of all Children
	Black	Span.-surnamed and Other	White	
More than 90% Black	1,017,385 (70.5%)	6,617 (1.6%)	7,507 (0.2%)	1,031,509 (66.9%)
More than 90% white	105,137 (7.3%)	257,904 (63.4%)	3,945,730 (86.1%)	4,308,771 (16.0%)

1. Data derived from USDHEW/OE, Education of the Disadvantaged, April 1970.

School Location. School urbanism data for participating public elementary schools are available in both the FY 68 and the FY 69 Survey of Compensatory Education reports. However, comparison between fiscal years is made difficult by the fact that the two surveys used different definitions for the terms urban and suburban. Nevertheless, an attempt was made to make the data comparable by developing common definitions and recombining data presented in the two reports. The developed definitions are as follows:

- Rural - schools located in rural areas or those that serve families living in rural areas.
- Suburban - schools located in suburbs or small cities (population less than 50,000 for FY 69 and less than 40,000 for FY 68).
- Urban - schools located in cities (population 50,000 or greater in FY 69 and 40,000 or greater in FY 68).

It was impossible to get exactly equivalent groupings in terms of population between suburban and urban for the two sets of data because of the way those data were tabularly presented in the two reports. In addition to the definition problems faced in comparing those data, the FY 68 survey reported that school principals who answered the questions relating to urbanism may themselves have had some difficulty in deciding the correct category in which to place their schools. Because of these problems, the following data should be considered only approximations.

As indicated by the column totals in Table 4.9, there is some disagreement between the two fiscal years' data in terms of concentration of children in schools at various locations. Both years' data agree as to the concentration in urban schools, approximately 23 percent; however, there is significant disagreement in terms of the concentration of students in suburban and rural schools. It does not seem likely that between FY 68 and 69 there was a shift of population from the suburbs to rural areas of the magnitude suggested by those data. Fiscal year 68 Bureau of the Census data indicated that approximately 65 percent of the total U. S. population resided in metropolitan areas, and 35 percent resided in small towns and rural areas in that year. Those census figures tend to support the FY 68 distribution data and leave the FY 69 data suspect. The following discussion of school urbanism will therefore be based primarily on the apparently more reliable FY 68 data.

The column totals in Table 4.9 suggest that during FY 68 22.4 percent of all children in Title I schools were concentrated in urban schools, 46.2 percent in suburban, and 31.3 percent in rural schools. Further, 38.3 percent of all children were white and in suburban schools, 10.7 percent were Black and in urban schools, and 2.7 percent were from other ethnic groups in urban schools. When the cell figures in Table 4.9 are converted to percentages of their respective ethnic group, the picture is somewhat clarified (those percentages do not appear in Table 4.9). Although only 22.4 percent of all students in Title I elementary schools attended urban schools in FY 68, 47.7 percent (688,281) of the Blacks and 42.6 percent (173,531) of the children from other minority groups were concentrated in urban schools. In contrast, only 12.6 percent (575,327) of the whites attended urban schools. Fifty-four percent of the whites were concentrated in suburban, and 33.6 percent in rural schools. Clearly, minority group children are more highly concentrated proportionately in urban schools than whites, while white children are in proportionately higher concentrations in suburban and rural schools than are minority groups.

Information on the distribution of students in Title I schools with various concentrations of economically disadvantaged children by urbanism of the school was presented in the FY 68 but not the FY 69 survey report. The row percentages in Table 4.11 illustrate the fact that 74.9 percent of all the children in Title I schools attended schools with low concentrations of economically disadvantaged children, 16.1 percent were in schools with moderate concentrations, and only 9 percent were in schools with high concentrations of poor children. The majority of children (64.2 percent) were in low concentration suburban and rural schools. However, of the 9.0 percent that were in high concentration schools, 67.2 percent (383,873) were attending urban schools. During FY 68, schools with high concentrations of economically disadvantaged children tended

TABLE 4.11

Number and Percent of Elementary School Students in Urban, Suburban, and Rural Title I Schools with Low, Moderate, and High Concentrations of Economically Disadvantaged Students (FY 68) -- Projected from a Representative Sample of Districts[1]

Concentration of Disadvantaged	School Location			Row Total	Row %
	Urban	Suburban	Rural		
Low (under 26%)	678,377 (10.7%)	2,479,164 (39.1%)	1,591,719 (25.1%)	4,749,260	74.9
Moderate (26 to 50%)	396,377 (6.3%)	319,535 (5.0%)	301,830 (4.8%)	1,017,742	16.1
High (over 50%)	383,873 (6.1%)	91,234 (1.4%)	96,290 (1.5%)	571,397	9.0
Column Total	1,458,627	2,889,933	1,989,839	6,388,399	
Column Percent	23.0	45.6	31.4	100.0	

1. Data derived from USDHEW/OE, Education of the Disadvantaged, April 1970.

to be in urban areas while those with low concentrations of poor children tended to be in suburban and rural areas. Economically disadvantaged children are, as are minority group children, concentrated in large city schools.

Attendance and Mobility. Attendance rate information was presented in both the FY 68 and the FY 69 survey reports. FY 68 data are in terms of student attendance while FY 69 data are in terms of school attendance rates. Those data are combined in Table 4.12 to illustrate the percentage of students that had attendance rates of 89 percent or less during FY 68 and the percentage of schools during FY 69 that had attendance rates 89 percent or less, by urbanism of the schools and children. Overall, during FY 68 only 7.9 percent of all children in Title I elementary schools had poor attendance rates. During that year, however, the percentage of children in urban schools with poor attendance rates was higher than the overall percentage, while in suburban and rural schools a smaller proportion of children had poor attendance rates. The second row of Table 4.12

TABLE 4.12

Percent of Pupils (FY 68) and Schools (FY 69) with
Attendance Rates of 89 Percent or Less
by Location of the Children and School

Attendance Rate 89 % or Less	Location of School			Total
	Urban	Suburban	Rural	
Pupils (FY 68)[1]	8.9%	6.0%	7.0%	7.9%
Schools (FY 69)[2]	19.5%	7.4%	4.7%	7.8%

1. Data derived from USDHEW/OE, Education of the Disadvantaged, April 1970.
2. Data derived from Glass, 1970.

indicates that in FY 69, 7.8 percent of all Title I elementary schools had attendance rates of 89 percent or less. A higher proportion of schools in urban areas (19.5 percent) had poor attendance rates, and a lower proportion in rural areas (4.7 percent) had lower rates than schools in general. Student and school attendance rates tend to be poorer than average in urban areas and better than average in rural and suburban areas.

Related to attendance rates are mobility rates -- additions to and withdrawals from school during the academic year divided by the average daily membership of the school. Data on mobility rates were available for FY 69. The Compensatory Education Survey of 1969 reported that most (62 percent) Title I elementary schools had mobility rates of less than 20 percent. Rural schools were more stable, with 73.5 percent of them reporting mobility rates less than 20 percent, suburban schools were less stable, 52.3 percent had low mobility rates, and urban schools were least stable with only 27.9 percent of them reporting mobility rates less than 20 percent. Urban Title I schools are generally less stable and have lower attendance rates than their suburban and rural counterparts. Stability and attendance problems apparently underline much of the difficulty that urban schools have in providing continuity in educational programs for a large proportion of their students.

Classroom Organization and Grouping. Two additional characteristics of Title I elementary schools were reported in the FY 68 and FY 69 surveys -- ability grouping and graded versus nongraded classroom organization, respectively. The results reported in the FY 69 survey in regard to graded versus nongraded organization can be simply stated. The majority, well over 75 percent, of all Title I elementary schools in FY 69 had maintained an organization along graded lines. There was a slight trend toward more frequent use of nongraded organization in the lower than higher elementary grades. Related to classroom organization is the information provided by the FY 68 survey on ability grouping. During FY 68, 62 percent of all pupils in Title I elementary schools were in classrooms in which some or all students were grouped by some measure of ability. Approximately 36 percent of all students were grouped by ability with respect to subject taught, while 25.8 percent were grouped by ability in classrooms but not by subject within the classrooms. More Blacks and Spanish-surnamed children were grouped by class than by subject within classrooms and grouping of white children was the converse. Children in schools with moderate and high concentrations of economically disadvantaged children also tended to be grouped by class, rather than by subject, as were the children in low concentration schools.

The majority of Title I elementary schools are organized along graded lines but have some form of ability grouping. Poor and minority children tend to be assigned to classrooms by ability level, whereas more fortunate children tend to be ability-grouped within their classrooms by subject. That tendency to ability-group poor and minority children by classroom may partially explain the extent of segregation that occurs by classroom as reported in Table 4.10 and discussed earlier.

Family Characteristics of Children in Title I Schools

The characteristics of the families of children in Title I schools were detailed in the Compensatory Education Surveys of both FY 68 and FY 69. Although both surveys were concerned with family income, occupation, education, and number of families on welfare, their methods of summarizing data differed in many important respects, making direct comparisons impossible. One of the surveys reported income in terms of family income categories while the other reported data in terms of income per family member; occupational status was reported in terms of status level in one report and in terms of skill levels in the other; education level was reported for fathers and mothers in the FY 68 report and in terms of head of household in FY 69; and finally, one report provided unconfounded data on number of children from families receiving Aid to Families with Dependent Children (AFDC) while the other confounded those data with unemployment. Rather than attempt to equate such data, FY 68 data on family characteristics will be summarized with occasional reference to the FY 69 data that are somewhat, though not directly, comparable.

Family Income. During FY 68, 17.1 percent of all children in Title I schools came from families with incomes less than $3,000 and 35.0 percent were from families with incomes between $3,000 and $6,000. Bureau of Census data for FY 68 indicate that 9.2 percent of all children under 18 years of age were in families with annual incomes under $3,000, and 20.2 percent had incomes between $3,000 and $6,000. Comparison of family income of children in Title I schools to those census figures suggests that economic deprivation was almost twice as common among pupils in Title I schools as among the general population during FY 68.

The FY 69 survey asked teachers to estimate family income for each of their pupils in the survey. Estimates were divided by the number of family members to arrive at an estimated income per family member. The results of the survey indicated that approximately 25 percent of the children in Title I schools were from families with a per-family-member income of less than $800, 15 percent had per-family-member incomes between $800 and $1,100, and the remainder of the families had per-family-member incomes greater than $1,100. Assuming an average family size of 3.6 (1970 Statistical Summary of the United States), then 25 percent of all children in Title I schools with a per-family-member income of less than $800 were from families with incomes less than $2,880, well below the poverty line. The $2,880 figure is probably an underestimate, however, since poor families are generally larger in size than the national average.

Since the FY 68 Survey of Compensatory Education confounded the count of families receiving AFDC with unemployment information, the number of children in Title I elementary schools from AFDC families is only available for FY 69. During that fiscal year, 9.2 percent of Title I children were from families on welfare. Further, 42.5 percent of those children were enrolled in urban schools which accounted for only 22.5 percent of all Title I children. This fact is consistent with the data summarized earlier which indicated that in FY 68 poor children tended to be concentrated in a small number of large city schools (see Table 4.11).

Job Status and Education Level. During FY 68 Title I school teachers reported that 60.8 percent of their pupils came from families where the head of household held a low status job (e.g., laborers and unskilled workers) or were housewives. Approximately 43 percent of the heads of household of the FY 69 Title I children worked at unskilled or semiskilled jobs. The apparent difference between these figures is probably due to the fact that "housewife" was categorized with low status jobs in FY 68 and in FY 69 no such category was included in the survey's final report.

In regard to family-member education level, the FY 68 survey reported that approximately 50 percent of the mothers and fathers of children in Title I elementary schools had less than a high school education. During FY 69, teachers reported that 40 percent of the children in Title I schools came from families where the head of household had less than a high school education. The apparent reduction may represent an actual improvement; however, the extent of reduction (10 percent) in the short period between surveys tends to cast doubt on this matter. Nevertheless, it does appear that at least 40 percent of the children in Title I elementary schools came from families where the head of household failed to complete high school.

The Compensatory Education Surveys of FY 68 and 69 seem generally to agree that family characteristics are directly related to the degree of school urbanism. Low income, education, and occupation levels were more prevalent in rural and urban areas than in suburban areas.

Characteristics of Children in Title I Schools

The FY 68 and FY 69 Surveys of Compensatory Education classified children in Title I elementary schools into six categories of disadvantagement on the basis of teacher estimates of their pupils' family income and educational prospects. Student family income was estimated in terms of three categories, namely, under $3,000, $3,000 to $,6000, and $6,000 or more. Educational prospects of students in Title I elementary schools were judged by their teachers in terms of ability to complete high school and no such ability. Those two dimensions were used simultaneously to develop the six classifications of children illustrated in Table 4.13. Although those six classifications suggest the critical needs of the students within them, discussion of particular services required to overcome each type of disadvantagement is postponed until the next chapter. The following paragraphs are concerned primarily with the characteristics of Title I children in terms of their distribution by classification of disadvantagement in various ethnic groups, school locations, and schools with varying concentrations of economically disadvantaged children.

Types of Disadvantagement. The second column of Table 4.13 indicates that the distribution of children across classifications during FY 68 was similar to that during FY 69. The small but apparent differences between the two distributions can probably be accounted for by the way the two surveys handled nonrespondents. The procedure used in FY 68 was not defined. In FY 69, however, nonrepondents were included in the divisor used to obtain the percentages in the table. On the basis of the FY 69 procedures, then, the FY 69 percentages in Table 4.13 are probably underestimates of the actual percentages. The fact that the amount of underestimation is proportional to the severity of disadvantagement is consistent with this hypothesis since more nonrespondents would be expected in these categories.

Combining data from the two years, Table 4.13 suggests that approximately 57 percent of the children in Title I elementary schools during FY 68 and 69 were disadvantaged while 43 percent of them had no such handicaps. The predominant type of disadvantagement was economic, with approximately 27 percent of all children classified in the moderate economic disadvantaged category and 9 percent in the severe economic disadvantaged classification. The next most frequent difficulty was multiple disadvantagement. Approximately 6 percent of all children in Title I elementary schools suffer from severe multiple disadvantagement and about 8 percent from moderate multiple disadvantagement. Only about 3.5 percent of all the enrolled children suffered from educational disadvantagement uncomplicated by economic problems. More than half of all children

TABLE 4.13

Percentage of Elementary School Students in Title I Schools during FY 68 and 69 by Classification of Disadvantagement and Ethnic Group. Percentages by Column. The differences between the sum of FY 69 column percentages and 100 indicate the percentage of nonrespondents.

Classification	FY	Total	Ethnic Group Black	 Span.-sur. & Other	 White
Total	68	6,273,196	1,399,209	393,755	4,480,232
	69	5,669,151	1,299,116	370,435	3,999,600
I. Severe Multiple Disadvantage.					
Under $3,000 family income and	68	6.7	16.3	11.5	3.3
less than high school ability	69	5.4	12.9	8.9	2.8
II. Moderate Multiple Disadvantage.					
Family income $3,000-$6,000 and	68	8.6	12.4	15.1	6.8
less than high school ability	69	8.2	12.6	15.0	6.5
III. Educational Disadvantage.					
Less than high school ability and	68	3.6	2.3	2.7	4.0
family income $6,000 or more	69	3.3	2.1	2.1	3.8
IV. Severe Economic Disadvantage.					
Under $3,000 family income and	68	10.2	26.2	15.2	4.8
high school ability or more	69	7.9	19.8	11.7	3.2
V. Moderate Economic Disadvantage.					
Family income $3,000-$6,000 and	68	27.2	30.6	37.2	25.2
high school ability or more	69	27.6	34.3	38.2	25.6
VI. Other -- Family income $6,000 or	68	43.7	12.2	18.3	55.9
more and high school ability or more	69	41.8	13.3	19.7	54.9

enrolled in Title I schools during FY 68 and 69 were in need of compensatory services, with about 15 percent requiring both economic and educational assistance, 36 percent needing economic assistance, and 3.5 percent only compensatory educational services.

Ethnic Group. Table 4.13 also illustrates the distribution of children within various ethnic groups across categories of disadvantagement. Again, the differences between fiscal years are probably more apparent than real due to the methods used to deal with nonrespondents. During both fiscal years, approximately 55.4 percent of the white children in Title I elementary schools were classified as nondisadvantaged while 87.3 percent of all Blacks and 81.0 percent of the children in the Spanish-surnamed and other category were considered disadvantaged. Numerically and proportionately, minority group children were more concentrated than white students in the severe multiple and severe economic categories of disadvantagement, and they were proportionately but not numerically more concentrated in the moderate categories. Non-minority group children were proportionately and numerically more concentrated in the educational disadvantagement category than minority group students; however, they were numerically, although not proportionately, more concentrated in the moderate multiple and moderate economic categories. Apparently, severe multiple and severe economic disadvantagement are primarily minority group problems while educational disadvantagement is primarily a white problem and moderate multiple and moderate economic disadvantagement are problems faced by both minority and non-minority groups.

School Location. The distribution of disadvantaged students in Title I elementary schools at various locations was reported by both the FY 68 and the FY 69 Surveys of Compensatory Education. Only the FY 68 data will be discussed here because of the discrepancy mentioned earlier between the FY 69 data and the previous year census data. Table 4.14 summarizes the FY 68 data. The main school location categories of urban, suburban, and rural in Table 14.4 are comparable to those used in earlier sections of this chapter. The subcategories under urban and suburban plus the rural category were those used in the final report of the FY 68 Compensatory Education Survey. In that report large cities were defined as those with populations of 500,000 or larger, middle-size cities were those with populations between 40,000 to 500,000, small cities were defined as those with populations under 40,000. Suburban and rural school locations were undefined but their definitions are presumably similar to the definitions used earlier in this report. The FY 68 subcategories are used in the following discussion since they allow finer discriminations than the three general categories.

The unbracketed percentages in the last row of Table 4.14 indicate that 70.3 percent of all children enrolled in suburban schools were nondisadvantaged while 80.6 percent of the students in large cities, 66.5 percent in medium-size cities, 62.6 percent in rural areas, and 53.6 percent of the students enrolled in small city elementary schools were disadvantaged. Disadvantaged children are obviously concentrated in city

TABLE 4.14

Number and Percent of Students in Each Category of Disadvantagement by School Location, FY 68. Bracketed Percentages are by Row and Others by Column. Figures are Projected from FY 68 Sample of Title I Districts Enrolling 300 or more Students.

Classification		Total	School Location				
			Urban		Suburban		Rural
			Large Cities	Middle-size Cities	Small Cities	Suburbs	Rural Areas
Total	No. %	6,406,047	557,047 [8.7]	882,719 [13.8]	1,945,620 [30.4]	1,005,874 [15.7]	2,014,787 [31.4]
I. Severe Multiple Disadvantage. Under $3,000 family income and less than high school ability		441,138 6.9	51,727 9.3 [11.7]	66,127 7.5 [15.0]	125,031 6.4 [28.3]	16,531 1.6 [3.8]	181,722 9.0 [41.2]
II. Moderate Multiple Disadvantage. Family income $3,000-$6,000 and less than high school ability		550,088 8.6	70,174 12.6 [12.8]	101,385 11.5 [18.4]	170,140 8.7 [30.9]	52,890 5.3 [9.6]	155,499 7.7 [28.3]
III. Educational Disadvantage. Less than high school ability and family income $6,000 or more		225,779 3.5	16,767 3.0 [7.4]	32,213 3.6 [14.3]	73,414 3.8 [32.5]	47,415 4.7 [21.0]	55,970 2.8 [24.8]
IV. Severe Economic Disadvantage. Under $3,000 family income and high school ability or more		667,239 10.6	90,543 16.3 [13.4]	105,016 11.9 [15.5]	159,566 8.2 [23.6]	25,973 2.6 [3.8]	296,141 14.7 [43.7]
V. Moderate Economic Disadvantage. Family income $3,000-$6,000 and high school ability or more		1,744,189 27.2	219,729 39.4 [12.6]	282,003 32.0 [16.2]	515,378 26.5 [29.5]	154,665 15.4 [8.9]	572,413 28.4 [32.8]
VI. Other -- Family income $6,000 or more and high school ability or more		2,767,614 43.2	108,108 19.4 [3.9]	295,975 33.5 [10.7]	902,090 46.4 [32.6]	708,399 70.3 [25.6]	753,042 37.4 [27.2]

and rural area schools. Trends with respect to the numbers of children suffering particular kinds of disadvantagement as a function of the type of community they live in were assessed by means of Chi Square analyses. This technique made it possible to identify those cell frequencies in Table 4.14 which were most deviant from expectations based on row and column totals. To summarize by community type, large cities were characterized by a particularly high incidence of both severe and moderate economic disadvantagement and by a particularly low incidence of nondisadvantagement. Middle-size cities were somewhat above expectation with respect to the incidence of all types of disadvantagement but were most deviant from other classes of community with respect to the low incidence of nondisadvantagement. Small cities were characterized by an unusually low incidence of severe economic disadvantagement while suburbs were substantially below expectations in the areas of severe multiple, moderate multiple, severe economic, and moderate economic disadvantagement. It was not surprising to find that there were proportionately many more nondisadvantaged children in suburban Title I schools than were found at other school locations. Children in rural Title I schools were more often found to have severe multiple or severe economic disadvantagement and less often to be nondisadvantaged than their peers living in other types of community. Clearly, as community size decreases so does the concentration of children with multiple and economic disadvantagement. This trend is consistent from large cities to middle-size cities to small cities to suburbs but reverses itself in rural areas which show a pattern most nearly like that of large cities.

Concentration of Poor. The number and percentage of children from each classification of disadvantagement in Title I schools with various concentrations of pupils whose parents were unemployed or on welfare was reported by the FY 68 Survey of Compensatory Education but not the FY 69 survey. Table 4.15 summarizes data from the 68 survey. The majority of children (75.1 percent) enrolled in Title I elementary schools during FY 68 attended schools with a low concentration of economically disadvantaged students. Approximately 16 percent of all students were enrolled in schools with a moderate concentration of economically disadvantaged pupils and 8.9 percent in high concentration schools. Chi Square analysis of cell frequencies in Table 4.15 indicated that children in schools with moderate and high concentrations of economically disadvantaged were similarly distributed across disadvantaged categories, and the distribution of those two groups was significantly different from that of children in schools with low concentrations of economically disadvantaged students. The largest differences occurred with respect to the severe multiple, severe economic, and nondisadvantaged categories. Predictably, more children in schools with moderate and high concentrations of economically disadvantaged were disadvantaged and more of them were in the severe multiple or severe economic disadvantagement categories. Exactly the opposite pattern was observed in schools with low concentrations of economically disadvantaged students. Although the majority of children in Title I schools attended schools with low concentrations of poor children, disadvantaged children -- especially those

TABLE 4.15

Number and Percent of Pupils in Each Classification of Disadvantagement by School Concentration of Economically Disadvantaged during FY 68.[1] Figures are Projected from Representative Samples of Title I Districts. Unbracketed Percentages are by Columns and Bracketed by Rows.

Classification		Total	Low (under 26%)	Moderate (26 - 50%)	High (over 50%)
Total	No. %	6,165,609	4,628,829 [75.1]	988,841 [16.0]	547,939 [8.9]
I. Severe Multiple Disadvantage. Under $3,000 family income and less than high school ability		428,924 7.0	211,573 4.6 [49.4]	135,250 13.7 [31.5]	82,101 15.0 [19.1]
II. Moderate Multiple Disadvantage. Family income $3,000-$6,000 and less than high school ability		535,302 8.7	373,688 8.1 [69.8]	101,348 10.2 [18.9]	60,266 11.0 [11.3]
III. Educational Disadvantage. Less than high school ability and family income $6,000 or more		218,572 3.5	185,470 4.0 [84.9]	22,683 2.3 [10.4]	10,419 1.9 [4.7]
IV. Severe Economic Disadvantage. Under $3,000 family income and high school ability or more		659,782 10.7	313,755 6.8 [47.6]	202,493 20.5 [30.7]	143,534 26.2 [21.8]
V. Moderate Economic Disadvantage. Family income $3,000-$6,000 and high school ability or more		1,696,626 27.5	1,187,541 25.7 [70.0]	323,727 32.7 [19.1]	185,358 33.8 [10.9]
VI. Other -- Family income $6,000 or more and high school ability or more		2,626,403 42.6	2,356,802 50.8 [89.7]	203,340 20.6 [7.7]	66,261 12.1 [2.6]

---

[1] Percent of school enrollment from families whose head of household is unemployed or a welfare recipient.

in the more severe categories -- are proportionately more concentrated in schools with moderate and high concentrations of poor children.

Characteristics of Teachers in Title I Schools

The picture of the context in which Title I projects operate will now be completed with a brief sketch of the characteristics of teachers in Title I schools. The only information available in regard to the characteristics of Title I teachers was provided by the FY 69 Survey of Compensatory Education. The following paragraphs describe the ethnic group membership, experience, special training, job stability, and starting salaries of teachers in Title I schools during FY 69.

Ethnic Group. Minority group membership of teachers in Title I elementary schools is shown in Table 4.16. The school location categories used in that table are comparable to those used earlier. Approximately 81 percent of all teachers in Title I schools were white, 16.5 percent Black, and 1.3 percent were from other races. Chi Square analysis of the data in Table 4.16 showed that the most salient features of those data were the under-representation of Black teachers in rural and suburban schools, their over-representation in urban schools, and the under-representation of white teachers in urban schools. Also, the concentration of teachers by ethnic group in schools of differing degrees of urbanism is similar to that for pupils, as can be seen by comparing Table 4.16 with Table 4.9.

Experience. During FY 69, approximately 18 percent of all Title I school teachers had less than three years teaching experience, 30 percent had more than three but less than ten years, and 51 percent had more than ten years experience. There was a tendency during FY 69 for teachers with less experience to be placed in classrooms that had high concentrations of children from families on welfare. For example, approximately 17 percent of all teachers in Title I schools with less than three years of experience were in classes that had less than 10 percent of the children from families on welfare, another 17 percent were in classes with less than 50 percent on welfare, but 28.7 percent of those relatively inexperienced teachers were in classes with more than 50 percent of the children from families on welfare.

Although there was a tendency during FY 69 to assign less experienced teachers to classrooms with high concentrations of economically disadvantaged children, there was a somewhat countering tendency to assign teachers with special training for teaching disadvantaged to the same classrooms. For example, approximately 29 percent of all teachers attended one special training program for teaching disadvantaged, but 36.4 percent of all teachers in classrooms concentrated with 50 percent or more children from families on welfare had attended one program. Eleven percent of all teachers in Title I schools attended two programs, but 20.25 percent of those teachers in classes with high concentrations of economically disadvantaged children had attended two programs. It

TABLE 4.16

Teachers Classified by Ethnic Group Membership and Urbanism of School with Percents by Rows except for Bracketed Percents which are by Column, FY 69

Ethnic Group of Teacher	School Location				
	Generally Rural	Suburban	Urban	No Response	Totals
Black	13,203	3,258	17,442	1,693	35,596
	37.1%	9.1%	49.0%	4.8%	[16.5]
Spanish-surnamed and Other	1,091	571	1,141	49	2,852
	38.2%	20.0%	40.0%	1.7%	[1.3]
White	93,054	41,301	31,462	9,255	175,072
	53.2%	23.6%	18.0%	5.3%	[81.0]
No Response	1,183	262	735	295	2,475
	47.8%	10.6%	29.7%	11.9%	[1.2]
Totals	108,531	45,392	50,780	11,292	215,995
	50.3%	21.0%	23.5%	5.2%	

appears that teachers in classrooms concentrated with poor children have less general teaching experience but more special training in teaching the disadvantaged.

Turnover and Salary. During FY 69, teacher turnover in Title I schools was not extensive. However, there was a relationship between the concentration of poor children in classrooms and teacher turnover. Teachers assigned to classrooms with high concentrations of poor children tended to have slightly higher turnover rates.

Also during FY 69, more than 64 percent of all the elementary school districts with Title I programs had teacher starting salaries below the national average. Starting salaries were also related to the size of the school district, with 55 percent of the smallest districts reporting starting salaries below the national median while only 40 percent of the large districts reported starting salaries below the national median.

Summary. During FY 69 the teacher ethnic group distribution at various locations of Title I schools was similar to the pupil ethnic group concentration in those schools. There was also a trend during that fiscal year to assign less experienced but more specially trained teachers to classrooms with high concentrations of poor children where teacher turnover was slightly greater than in lower concentration classrooms. Title I schools during FY 69 had lower starting salaries than schools in general and the smaller districts tended to have lower starting salaries than the larger districts.

CHAPTER 5: NEEDS OF CHILDREN IN TITLE I SCHOOLS

The context in which the Title I program operates was described in the previous chapter. The characteristics of Title I school districts, schools, the teachers in those schools, and their pupils were discussed. This chapter focuses on the needs of children in Title I schools and the relation of those needs to their poverty level, ethnic group membership, and type of disadvantagement. The main purpose of the chapter is to document the need for compensatory education and life support services in schools designated as Title I schools. When compared to data in the following chapter on resource allocation, however, the data presented here provide a means to assess the efficiency and effectiveness of Title I resource allocation.

The main information sources for this chapter were the FY 68 and the FY 69 Surveys of Compensatory Education (USDHEW/OE, Education of the Disadvantaged, April 1970; Glass, 1970), with some supportive data derived from earlier USOE Title I annual reports. As in the previous chapter, the two Compensatory Education Surveys were selected as primary data sources because they provided the only nationally representative data collected to date. Also as noted in the previous chapter, final results from the somewhat comparable USOE Elementary and Secondary School Survey for FY 1970 were unavailable at the time of writing and therefore could not be included here.

The characteristics of the data sources were discussed in earlier chapters. Nevertheless, it should be pointed out again that in most cases data summarized are representative of participating Title I districts that enrolled 300 or more students, their Title I public elementary schools, teachers, and students in grades two, four, and six. The major limitations of the data base were discussed in the introduction to the previous chapter and in the section of the second chapter that dealt with the characteristics of data sources. The interested reader is referred to those chapters.

Needs as Measured by Standardized Achievement Tests

Within Title I project areas and schools, educational needs are often assessed through the administration of one or more standardized achievement tests. Since USOE's first annual report on Title I, attempts have been made to collect standardized achievement test data on a nationally representative sample of children in Title I schools. To date, every attempt has failed. Each attempt has, however, managed to collect data on a large group of students in Title I schools. Those data, though not nationally representative, are discussed in following paragraphs.

Pre-program Achievement Test Results

USOE's first annual report on Title I, The First Year of Title I, Elementary and Secondary Education Act of 1965 (1966), was based primarily on the data provided to USOE by state educational agencies in their first Title I Annual Evaluation Reports, the characteristics of which were described at length in the second chapter of this report. In those reports, states provided USOE with achievement test results for children participating in local educational agency Title I projects. Not all states provided the data requested by USOE, and most of them submitted data on groups that were not representative of the students in the state. Those data, though not representative of individual states or their aggregate, were summarized in the FY 66 annual report in terms of the percent of all children whose arithmetic and reading pretest scores fell below the 25th percentile in reference to national norms. Table 5.1 summarizes reading pretest data in terms of the grade bands reported.

TABLE 5.1

Percent of Pupils in Title I Schools Reading Below Grade Level by Various Criteria for Fiscal Years 1966 - 1969

Fiscal Year	Grade Level or Band	Percent of Pupils		
		Below 25th Percentile	Ratio of Pretest Grade Equiv. to Norm ≤ .66	.75 Grade Equiv. Units or more Below Grade Level
1966	1 - 3	34	-	-
	4 - 6	27	-	-
	7 - 9	37	-	-
	10 - 12	43	-	-
1967	2	51	-	-
	3	36	-	-
	4	41	-	-
	5	46	-	-
	6	44	-	-
1968	2, 4, 6	-	26.7	-
1969	2	-	-	8.0
	4	-	-	31.0
	6	-	-	41.0

Table 5.1 suggests that, prior to participation in their Title I project, more children in each grade band fell below the lowest quartile than the 25 percent that would be expected of a nationally representative

sample of children. Further, with the exception of the four through six grade band, more children in the higher grades fell within the lowest quartile than those in lower grades. That trend was even more strongly demonstrated in terms of arithmetic achievement on standardized tests. Only 24 percent of all Title I children for whom data were available in FY 66 were in the lowest quartile on arithmetic achievement tests, approximately what would be expected of all children in the nation. However, in grades four through six, 32 percent were in the lowest quartile. Forty-one percent in grades seven through nine were in that quartile, and 67 percent in grades ten through twelve fell within the first quartile. Clearly, more children who participated in Title I projects during FY 66 fell within the lowest quartile on standardized reading and arithmetic pretests than would be expected of a nationally representative sample of all children. Also, there was a tendency for participating children to demonstrate greater deficiency as they progressed through the grades. Again, the reader is reminded that those data were based upon a large, but unrepresentative sample of students in Title I schools.

Table 5.1 illustrates similar data which were reported in USOE's FY 67 annual report, entitled Title I/Year II. Those data were again provided to USOE by states; however, they met a USOE requirement that at least 100 student scores were represented in each set of LEA data. Most state reports contained data for only a relatively few LEA's -- those LEA's that reported usable pretest and posttest data. Test data were most often not representative of the individual states, and the aggregate data from the 21 states which provided usable data were not representative of the children in Title I projects nationally. As suggested by the FY 66 data, the FY 67 data indicate that prior to project participation more Title I students fell within the lowest quartile than would be expected of a nationally representative sample. In grade two, more than twice as many Title I children fell within the lowest quartile in reading as would be expected of all children nationally, while students in other grades, though more highly concentrated in the lowest quartile than children in general, were not quite so retarded. The trend of greater retardation in the upper grades that was evidenced by the FY 66 data was not evident in the FY 67 results.

The FY 68 Survey of Compensatory Education attempted to collect achievement test data from a representative sample of Title I participating districts that enrolled 300 or more students. Again, the effort failed. Nevertheless, the survey did manage to get pretest reading scores from a large but unrepresentative group of students in Title I-designated schools. Unfortunately, those data were presented in the appendix of the final report and were not discussed at length. Further, the information was presented in terms of the ratio of pupil pre-program reading achievement score to grade equivalent norm -- an unusual reporting format. Table 5.1 summarizes those data as they were combined for public school children in grades two, four, and six. During FY 68, 26.7 percent of the children in that unrepresentative sample were reported to have a ratio of pretest grade equivalent reading score to grade equivlent norm of .66 or less. For second-grade children that ratio reflects a grade equivalent score of 1.33 -- about .7 grade-equivalent units below the national norm; in grade four a ratio of .66 would be equivalent to a grade level score of 2.7 -- about 1.3 units below the norm; and in grade six, that ratio would be equivalent to a grade equivalent score of 4.0 -- two grade units below the norm. Those data suggest that 26.7 percent of the children in grades two, four, and six in Title I schools during FY 68 were seven months or more behind in reading achievement.

The FY 69 Survey of Compensatory Education also attempted to get nationally representative reading, language, and mathematics achievement pretest data on children in Title I schools and again failed. The survey did manage to collect data on approximately 59,200 students, or about one-half of the pupils in the survey sample at each grade level. However, the final report of the survey warns that the data cannot be considered representative of all Title I pupils in grades two, four, and six.

Table 5.1 summarizes the percent of students in grades two, four, and six during FY 69 that were .75 grade-equivalent units or more below the national norm in reading. The FY 69 survey final report suggests caution in interpreting the grade two percentage since the sample for that grade was about three-fourths the size of the samples at other grade levels and "may" have been less disadvantaged than the sample of children at other grade levels. Keeping that warning in mind, it still appears that more pupils in higher grades were seven and a half months or more below grade level than students at lower grade levels -- a trend similar to that reported in FY 66 for reading and arithmetic achievement. The mathematics and language achievement test data reported by the FY 69 survey showed similar deficiencies and a similar trend by grade level.

Data from the four USOE annual reports, although not representative nationally of children in Title I schools, do nevertheless indicate that more children in those schools suffer from reading, mathematics, and language deficiencies than would be expected of the nation's school children in general. Also there was some evidence that more children in the upper elementary grades were retarded in those skill areas than were students at lower grade levels. Apparently, schools selected for Title I participation are schools that have relatively high concentrations of educationally disadvantaged children.

Analysis of Reading Deficits

Standardized test results suggest that student reading deficits are one of the major problems that Title I schools must face. Teacher judgments of students' critical needs, detailed in the following section, concur with standardized test results. Because of that agreement, the extent of the problem, and the importance of reading to the attainment of educational and vocational goals, the following paragraphs look more closely at the problem in terms of the relationship of reading deficits to school location, minority group membership, and poverty.

The concentration of children with reading problems at various school locations is illustrated in Table 5.2. The categories of school location used in Table 5.2 correspond to those used in the previous chapter. According to estimates made by principals in Title I schools, approximately 20 percent of all the Title I schools in FY 69 had 50 percent or more students reading more than one grade level below the national norm, while 43 percent of them had less than 50 percent of their students manifesting such deficits. Those figures are probably underestimates since 36.8 percent of the principals of Title I schools did not respond to that survey question, and their schools must have included some children in one or more of the categories used in Table 5.2. Keeping in mind the high percentage of nonresponding schools, it can further be said that suburban schools had lower concentrations of children with reading problems than either urban or rural schools. Rural schools ranked second in their percentage of students below national reading norms with urban schools clearly showing the greatest need for remedial reading programs.

TABLE 5.2

Schools Classified by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement with Percent Distribution by Column. FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

Percent Pupils	Urbanism of School				
	Urban	Suburban	Generally Rural	No Response	Totals
0 - 29	451	1,647	4,989	168	7,255
	7.9	26.9	25.1	16.7	22.2
30 - 49	1,054	1,021	4,403	314	6,792
	18.5	16.6	22.2	31.2	20.8
50 - 69	891	515	1,846	14	3,266
	15.6	8.4	9.3	1.4	10.0
70 - 100	1,241	400	1,672	37	3,350
	27.8	6.5	8.4	4.6	10.2
No Response	2,068	2,551	6,961	475	12,055
	36.2	41.6	35.0	47.2	36.8
Totals	5,705	6,134	19,871	1,008	32,718

Table 5.3 illustrates that during FY 69 there was a relationship between the concentration of children from families on welfare and the concentration of Title I students reading below grade level as judged by their teachers. The more schools were concentrated with students from families on welfare, the higher was their concentration of children with reading problems. The diagonal running from upper left to lower right in Table 5.3 illustrates that point. The trend toward concentration of children with reading deficits in schools with high concentrations of children from families on welfare also holds true of other academic areas. Apparently, that trend is a general one.

TABLE 5.3

Schools Classified by Percent of Pupils with Families on Welfare and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement with Percent Distribution by Columns. FY 69 Data Projected from a Representative Sample of Title I School Districts Enrolling 300 or More Students (Glass, 1970).[1]

Percent Pupils on Welfare	Percent Pupils Below National Norm in Reading					
	0 - 29	30 - 49	50 - 69	70 - 100	No Response	Totals
None	524 7.2	182 2.7	73 2.2	0 0.0	733 6.1	1,512 4.6
1 - 25	5,949 25.1	5,305 22.4	2,166 9.1	1,697 7.2	8,590 36.2	23,707 72.5
26 - 50	230 3.2	668 9.8	563 17.2	655 19.6	1,089 9.0	3,206 9.8
51 - 100	104 1.4	64 0.9	207 6.3	772 23.0	549 4.6	1,694 5.2
No basis for estimation	348 4.8	482 7.1	105 3.2	190 5.7	788 6.5	1,914 5.8
No Response	99 1.4	92 1.4	152 4.6	35 1.0	306 2.5	686 2.1
Totals	7,254	6,793	3,266	3,349	12,055	32,719

---

1. The small differences between the totals in this table and the following two are as reported; their causes are unknown, and they appear to be insignificant.

The FY 69 survey reported that the need for remedial reading was also related to the concentration of ethnic minorities in Title I schools. The relationship between the Black student concentration in Title I schools and the percentage of pupils in those schools more than one grade level below the national norm in reading is illustrated in Table 5.4.

TABLE 5.4

Schools Classified by Percent of Black Pupils and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement with Percents by Row. FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

Percent Black	Percent Pupils Below National Norm in Reading					
	0 - 29	30 - 49	50 - 69	70 - 100	No Response	Totals
None	3,391	2,907	669	365	4,563	11,895
	28.5	24.5	5.6	3.0	38.4	
1 - 25	3,245	3,200	1,320	826	4,501	13,092
	24.8	24.4	10.1	6.3	34.4	
26 - 75	139	189	500	304	985	2,117
	6.5	9.0	23.6	14.4	46.6	
76 - 100	249	249	584	1,806	1,600	4,488
	5.5	5.5	13.0	40.2	35.7	
No Response	233	250	193	49	406	1,131
	20.6	22.1	17.1	4.3	35.9	
Totals	7,257	6,795	3,266	3,350	12,055	32,723

Table 5.5 presents similar information in regard to the concentration of Spanish-surnamed students. Those tables suggest that during FY 69 schools with high concentrations of Spanish-surnamed or Black students also tended to have high concentrations of pupils who were poor readers.

TABLE 5.5

Schools Classified by Percent of Spanish-surnamed Pupils and by Percent of Pupils more than One Grade Level Below National Norm in Reading Achievement with Percents by Row. FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

Percent Spanish-Surnamed	Percent Pupils Below National Norm in Reading					
	0 - 29	30 - 49	50 - 69	70 - 100	No Response	Totals
None	3,724 23.3	3,651 22.8	1,337 8.4	1,162 7.2	6,130 38.3	16,004
1 - 25	2,194 25.6	1,620 18.9	913 10.6	670 7.8	3,213 37.3	8,610
26 - 75	53 3.0	527 29.7	247 13.9	314 17.7	634 35.7	1,775
76 - 100	4 1.1	39 10.8	23 6.4	109 30.1	188 51.9	363
No Response	1,279 21.4	957 16.0	747 12.5	1,095 18.3	1,889 31.7	5,967
Totals	7,254	6,794	3,267	3,350	12,054	32,719

Needs as Judged by the Teachers of Title I Children

In describing the characteristics of students in Title I schools in the previous chapter, students were classified into one of six categories of disadvantagement on the basis of teacher estimates of their pupils' family income and educational prospects. The six categories were severe multiple, moderate multiple, educational, severe economic, moderate economic disadvantagement, and nondisadvantagement (see Table 4.13). Each of those classes suggests the particular needs of students within the classification. Children classified in the severe economic disadvantage category, by definition, need the economic or basic life support services normally provided at home by higher income families -- food, clothing, medical, and dental services. Students in the moderate economic disadvantage category require similar services, but less severely. Neither of these groups, by definition, requires compensatory educational services, while children in the educational disadvantagement category require only remedial educational services especially in the basic skills of reading, arithmetic, and language. Multiply disadvantaged children require both types of compensatory services -- life support and special remedial educational services. Moreover, they may require cultural enrichment programs to overcome their multiple deficiencies resulting from their economic situation, home environment, and failure in school.

The previous chapter alluded to the extent that children in each classification of disadvantagement had needs for compensatory educational and life support services. On the basis of Table 4.13, it was concluded that more than half of all children enrolled in Title I schools during FY 68 and 69 were in need of compensatory services with about 14 percent requiring both economic and educational assistance, 36 percent needing only life support services, and 3.5 percent requiring only remedial educational services. The following paragraphs will focus on the specific needs in those academic and life support categories. Specific critical needs are initially discussed in terms of poverty level, then by ethnic group membership, and finally by type of disadvantagement.

Early Estimates of Need

USOE's first annual report on Title I contained results of an analysis of pupil critical needs that were derived from State Title I Annual Evaluation Reports. At USOE's request, states reviewed LEA reports and attempted on that basis to determine the most pressing needs of students statewide. Analysis of those needs across states resulted in the identification of 120 critical needs nationally. Those critical needs were than classified into the following 12 major need areas:

- student reading skills
- student communication skills
- academic achievement in other basic skill areas
- instruction and curriculum
- student attitudes and behavior
- teacher training and parent involvement
- equipment and facilities
- student health and welfare
- services for handicapped children
- preschool and kindergarten program
- summer compensatory programs
- library services and supplies

Clearly, Title I schools and their children had critical needs in almost every conceivable area, according to the first State Title I Annual Evaluation Reports.

In addition to listing the critical needs statewide, states and outlying territories during FY 66 were also requested to rank the critical needs in their school systems. Fifty-two states and outlying areas complied with the request. The results of pooled statewide critical need ranking were as follows:

Critical Need	No. of States Reporting
Reading	29
Academic Achievement	11
General Abilities Development	8
Administration, Teaching, Other	2
Attitudes and Behavior	1
Instruction, Curriculum	1

More than half of the states and territories ranked reading improvement as the most pressing need of children in Title I schools. That finding is in agreement with the reading achievement test results reported earlier. Approximately 21 percent of the states felt that improvement in academic achievement was the most pressing need in their state and about 16 percent ranked improvement in student general abilities as the most critical need statewide. Surprisingly, no state ranked improved health and nutrition as their most critical need. Apparently, during FY 66 states felt that the most critical needs of their students in Title I schools were in the areas of basic skill development and academic achievement. That fact suggests that they may have been focusing on the educational needs of educationally and multiply disadvantaged children and neglecting the life support needs of economically and multiply disadvantaged students. However, as the last section of the following chapter indicates, quite the opposite was the case.

USOE's second annual report on the Title I program discussed students' critical needs only in terms of reading achievement scores. As mentioned in the previous section, almost half of all children in Title I schools that year were reported to score below the 25th percentile on standardized reading tests (see Table 5.1). The FY 68 Survey of Compensatory Education likewise failed to provide any critical need information other than standardized reading test scores and the classification of children by economic, educational, and multiple needs as discussed above. The final report of the FY 69 survey did, however, discuss at length the most pressing needs of children in Title I schools as judged by their teachers. The remainder of this section will summarize those data.

More Recent Estimates of Need

To determine the incidence of various types of critical needs among children in Title I schools, the FY 69 Survey of Compensatory Education asked teachers in Title I schools the following question: "According to your knowledge of this pupil's critical needs, which of the following would you recommend that he participate in during the next school year?" Table 5.6 summarizes the number of pupils in grades two, four, and six who in the judgment of their teachers evidenced critical needs in the eight compensatory program areas listed.

The percentages in Table 5.6 sum to more than 100 percent because many students had more than one critical need. The critical needs most frequently identified by teachers were those associated with educational

TABLE 5.6

Fiscal Year 1969 Teacher Estimates of Pupil
Critical Needs for Compensatory Programs

Area of Critical Need	No. of Pupils	Percent of all Pupils
Reading	2,463,500	43.0
Language	2,136,000	37.3
Mathematics	2,120,900	37.0
Cultural Enrichment	1,546,700	27.0
Health	633,900	11.1
Psychological Counseling	543,800	9.5
Food	373,400	6.5
Special Education	307,000	5.4
No Critical Need	-	34.0

disadvantagement or the educational aspect of multiple disadvantagement, namely, compensatory reading, language, and mathematics programs. Nonacademic needs were less frequently identified as critical. Only 11.1 percent of all pupils in Title I schools, according to their teachers, need health services, 9.5 percent psychological counseling, and 6.5 percent food services.

There are several apparent discrepancies between the figures in the above table and those in Table 4.13 which indicate the percentage of children classified in each category of disadvantagement on the basis of teacher estimates of pupil educational prospects and family income. First, when asked to judge critical needs, teachers estimated that 34 percent of their students had no such needs while on the basis of their judgment of student educational prospects and family income 41.8 percent of those same children were classified as nondisadvantaged; i.e., not having either severe or moderate economic or educational needs. The implication of that discrepancy is that some nondisadvantaged children have critical needs -- a situation which, again by definition, should not exist. The mutual incompatibility of these two sets of data is even greater than it appears at first. As will be discussed later (see Table 5.11), not only are there substantial numbers of children described as nondisadvantaged who have critical educational or life support needs, there are also many considered to have no critical needs who were described as severely or moderately disadvantaged. While semantic differences may be held partially responsible for these discrepancies, there is clearly a significant lack of reliability in the teachers' judgments. It is probable that the classification according to critical needs is more reliable than that by type of disadvantagement since information relevant to children's needs is more directly available to teachers than information about their families.

Similar noteworthy discrepancies between Tables 4.13 and 5.6 exist with respect to need for life support services and need for educational services. According to Table 4.13, over 49 percent of the children were identified as suffering from economic disadvantagement, severely, moderately, or in combination with educational disadvantagement. By definition, all of these children should have required life support services but a maximum of 17.6 percent were judged by their teachers to have critical health and/or food needs. With respect to academic needs, Table 4.13 indicates that only 16.9 percent of the children were educationally or both educationally and economically disadvantaged, while Table 5.6 shows that at least 37 percent have a critical academic need. It appears that Table 4.13 overestimates the need for life support services, underestimates the need for remedial educational services, and overestimates the number of children without critical needs (i.e., nondisadvantaged children) in Title I schools. Tables 5.6 and 5.11, then, seem to provide a better indication of the compensatory service needs of children in Title I schools.

Poverty Level and Estimated Critical Needs

The relationship of student educational prospects and family income as estimated by teacher judgment of both factors is illustrated in Table 5.7. As income per family member increases, the percentage of pupils not expected to go beyond the eighth grade decreases from 9 percent at the lowest income level to 1.4 percent at the highest income level. Conversely, the percentage of pupils in FY 69 expected to enter college increased from 28.9 percent for the lowest income category to 63.5 percent at the highest income level. There appears to be a strong, but not perfect, relationship between family income and estimated educational prospects. If a child is deprived economically, he is also likely to be educationally deprived. That relationship suggests that the economic indicators used to estimate the need for compensatory services and to determine LEA entitlements are at the very least, reasonable.

TABLE 5.7

Pupils Classified by Poverty Level and by Expected School Attainment based on Ability with Percents by Column, FY 69. Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

Expected School Attainment	Income per Family Member $ 200 - 1099	1100 - 1999	2000 - 2899	No Response	Totals
8th Grade or less	206,225 9.0	52,530 2.6	12,065 1.4	24,542 4.5	295,362 5.2
9th or 10th Grade	231,245 10.2	68,105 3.4	21,598 2.4	27,281 5.0	348,229 6.1
11th or 12th Grade, not Graduate	215,568 9.5	104,093 5.1	31,474 3.9	34,130 6.3	385,265 6.7
High School Graduate	842,159 37.0	645,468 31.8	205,176 23.2	163,092 30.1	1,855,895 32.4
Enter College	658,232 28.9	1,031,362 50.8	561,621 63.5	249,510 46.1	2,500,725 43.6
Other Post High School Education	110,445 4.8	120,886 6.0	47,416 5.4	28,656 5.3	307,403 5.4
No Response	13,911 0.6	8,490 0.4	4,742 0.5	13,951 2.6	41,094 0.7
Totals	2,277,785	2,030,934	884,092	541,162	5,733,973

The relationship between family income level and estimated needs for compensatory services is illustrated in Table 5.8. During FY 69, the higher the family income of the child, the less likely he was to have critical needs for compensatory education. Approximately 80 percent of the children in the lowest income category were judged to have one or more critical needs, while only 57.7 of the children from the next highest, and 47.4 percent of the pupils in the highest income category had one or more critical needs for compensatory services. Further, the proportion of students with critical needs in every area of need was highest

TABLE 5.8

Pupils Classified by Poverty Level and Type of Critical Need, with Percents by Column. FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).[1]

Critical Needs	Income per Family Member				
	$ 200 - 1099	1100 - 1999	2000 - 2899	No Response	Totals
Reading	1,298,117 57.0	706,021 34.8	240,700 27.2	218,701	2,463,539 43.0
Language	1,167,143 51.2	578,796 28.5	193,311 21.9	196,750	2,136,000 37.3
Mathematics	1,108,695 48.7	613,487 30.2	209,166 23.7	189,511	2,120,859 37.0
Cultural Enrichment	852,033 37.4	424,892 20.9	150,793 17.1	119,025	1,546,743 27.0
Health	443,396 19.5	114,264 5.6	30,110 3.4	46,134	633,904 11.1
Psychological Counseling	262,423 11.5	166,082 8.2	62,179 7.0	53,166	543,850 9.5
Food	306,992 13.5	33,065 1.6	8,382 1.0	24,948	373,387 6.5
Special Education	172,622 7.6	80,601 4.0	27,365 3.1	26,440	307,028 5.4
No Critical Need	453,614 19.9	859,044 42.3	465,130 52.6	194,073	1,971,861 34.4
Totals	2,277,789	2,030,934	884,094	541,160	5,733,977

[1] Again, the small differences between the totals in this table and the previous one are as reported, their cause is unknown, and they appear to be insignificant.

for children in the lowest income category. The FY 69 Survey of Compensatory Education found a similar relationship between children from families on welfare and critical needs. The relationship between family income and educational prospects (Table 5.7) and that between family income level and critical needs (Table 5.8) both suggest that the criterion of poverty as an indicator of critical need for compensatory services, though not perfect, is a reasonable one.

Ethnic Group Membership and Estimated Critical Needs

The FY 69 relationship between ethnic group membership and educational prospects is presented in Table 5.9. A higher percentage of Blacks and other minority group members were judged by their teachers to lack the ability to complete the primary grades or high school. Similarly, a smaller percentage of minority group members were judged to have the ability to enter college. There appears to be a strong relationship between expected educational attainment and ethnic group membership, with non-minority group membership more highly associated with greater educational prospects, as judged by teachers.

The relationship between ethnic group membership and critical educational and life support needs is illustrated in Table 5.10. As indicated by the "no critical needs" column of that table, approximately 57 percent of all white children in Title I elementary schools during FY 69 had one or more pressing needs for compensatory services, while 87.1 percent of the Black students, and 81.0 percent of the other minority group students had one or more such needs. Both minority group categories consistently had a higher proportion of students who required services in each area of need. In terms of absolute numbers, however, more white students have critical needs in each area except for food programs. Proportionately, but not numerically, minority group children had a greater estimated need for compensatory services than white children during FY 69.

Types of Disadvantagement and Critical Needs

The FY 68 and the FY 69 Surveys of Compensatory Education both categorized the children in Title I schools in terms of classes of disadvantagement (see Table 4.13). However, as pointed out above, those classifications tended to overestimate the number of children without critical needs (i.e., nondisadvantaged children) and the number who needed life support services. They also underestimated the need for remedial educational services. Comparison of Table 5.11 to Table 4.13 substantiates those conclusions.

Many children classified on the basis of the educational prospects and family income criteria as nondisadvantaged evidenced one or more critical needs for compensatory services. Conversely, not all the children classified as disadvantaged had critical needs. Also evidenced by

TABLE 5.9

Pupils Classified by Race and by Expected School Attainment Based on Ability, with Percents by Column, FY 69. Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).[1]

Expected School Attainment	Race of Pupil				
	Black	Spanish-sur. & Other	White	No Response	Totals
8th Grade or less	121,494 9.4	29,437 8.0	140,586 3.5	3,842 5.9	295,359
9th or 10th Grade	124,606 9.6	37,369 10.1	182,512 4.6	3,744 5.8	348,231
11th or 12th Grade, not Graduate	129,403 10.0	33,259 9.0	218,717 5.5	3,888 6.0	385,267
High School Graduate	441,112 34.0	142,859 38.6	1,254,178 31.4	17,746 27.4	1,855,895
Enter College	411,678 31.7	110,538 29.8	1,954,272 48.9	24,236 37.4	2,500,724
Other Post High School Education	62,424 4.8	14,668 4.0	227,536 5.7	2,777 4.3	307,405
No Response	8,401 0.6	2,306 0.6	21,798 0.6	8,591 13.2	41,096
Totals	1,299,118	370,436	3,999,599	64,824	5,733,977

1. Once more, the small difference between the totals in this table and those in the following table are as reported, their cause is unknown, and they appear to be insignificant.

Table 5.11 is a relationship between the type and severity of disadvantagement and the associated proportion of children with critical needs in each area. Children classified as economically disadvantaged, for example, were proportionately less concentrated in the academic need categories, and those in the moderate economic category were proportionately

TABLE 5.10

Pupils Classified by Ethnic Group and by Type of Critical Need, with Percents by Number of Pupils in Column.[1] FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

Critical Needs	Ethnic Group				
	Black	Spanish-sur. & Other	White	No Response	Totals
Reading	792,360 61.0	211,220 57.0	1,431,133 35.8	28,825 44.5	2,463,538 43.0
Language	768,213 59.1	220,110 59.4	1,121,718 28.0	25,958 40.0	2,135,999 37.2
Mathematics	724,065 55.7	169,675 45.8	1,200,882 30.0	26,235 40.5	2,120,857 37.0
Cultural Enrichment	598,652 46.1	138,906 37.5	792,658 19.8	16,525 25.5	1,546,741 27.0
Health	246,093 18.9	58,888 15.9	322,633 8.1	6,291 9.7	633,905 11.1
Psychological Counseling	163,078 12.6	37,831 10.2	337,755 8.4	5,184 8.0	543,848 9.5
Food	203,008 15.6	37,198 10.0	128,299 3.2	4,890 7.5	373,395 6.5
Special Education	104,402 8.0	22,516 6.1	177,765 4.4	2,343 3.6	307,026 5.4
No Critical Need	167,538 12.9	70,345 19.0	1,720,544 43.0	13,436 20.7	1,971,863 34.4
Totals	1,299,115	370,432	3,999,599	64,827	5,733,973

[1] Percents do not sum to 100 for each column because a child may have more than one critical need.

TABLE 5.11

Pupils Classified by Type of Disadvantagement and by Type of Critical Need, with Percents by Number of Pupils in Column.[1] FY 69 Data Projected from a Representative Sample of Title I Districts Enrolling 300 or More Students (Glass, 1970).

	Severe Multiple	Moderate Multiple	Educational	Severe Economic	Moderate Economic	Nondisadvantaged	No Response	Totals
Reading	277,751 87.4	425,480 87.9	164,695 86.2	227,771 52.4	658,452 40.5	609,659 24.8	99,730 45.4	2,463,538 43.0
Language	247,218 77.8	361,422 74.7	132,967 69.6	234,678 54.0	603,149 37.1	477,552 19.4	89,013 40.5	2,145,999 37.2
Mathematics	237,074 74.6	358,092 74.0	137,140 71.8	207,760 47.8	590,486 36.3	513,369 20.9	86,946 39.5	2,130,867 37.0
Cultural Enrichment	129,877 40.9	178,428 36.9	44,878 23.5	207,762 47.8	517,802 31.8	405,984 16.5	63,102 28.7	1,547,833 27.0
Health	113,004 35.6	122,943 25.4	21,465 11.2	100,698 23.2	184,833 11.4	68,905 2.8	21,655 9.9	633,503 11.1
Psychological Counseling	62,139 19.6	89,452 18.5	40,064 21.0	45,604 10.5	144,186 8.9	142,852 5.8	19,547 8.9	543,846 9.5
Food	94,123 29.6	55,955 11.6	4,686 2.4	109,376 25.2	82,234 5.1	14,935 0.6	12,077 5.5	373,386 6.5
Special Education	62,855 19.8	81,649 16.9	30,934 16.2	19,831 4.6	46,329 2.8	53,076 2.2	12,351 5.6	307,025 5.4
No Critical Need	7,061 2.2	14,070 2.9	6,149 3.2	63,972 14.7	498,510 30.7	1,326,635 53.9	55,465 25.2	1,971,862 34.4
Totals	317,776	484,084	190,974	434,459	1,625,873	2,460,922	219,887	5,733,975

---

1. Percents do not sum to 100 for each column because a child may have more than one critical need.

less concentrated in each critical need area than were the children in the severe economic classification.

The relationship between the classification of disadvantagement and critical needs is, however, far from perfect. Estimations of critical need directly from that classification system without reference to teacher estimates of critical need within each classification tend to result in underestimation of the number of disadvantaged children in Title I schools, underestimation of the need for remedial educational services, and overestimation of the need for life support services. It can therefore be concluded that Table 5.11 provides the best estimates available, to date, of the critical needs of students in Title I schools.

CHAPTER 6: RESOURCE ALLOCATION

The two previous chapters were concerned with the context in which Title I projects operate and the needs of children within Title I schools. This chapter focuses on the relationship of context and need to the allocation of Title I funds and to the delivery of compensatory services. Title I authorizations, appropriations, and expenditures are discussed, participation in various types of Title I programs is detailed, and the relationship of expenditures to participation is described. Those topics are first discussed at the national, then state, district, and finally at the pupil level. The efficiency and effectiveness of resource allocation is evaluated in this chapter without regard to the impact of that process on participating children. Impact, or the output of the compensatory process, is discussed in the immediately following chapter.

Title I funds are intended to provide supplementary compensatory services to economically, educationally, and multiply disadvantaged children in areas impacted with children from low-income families. Children receiving services provided by Title I funds also participate in regular school programs and may participate in compensatory programs partially or wholly supported by local, state, or other federal funds. For purposes of this chapter, a local project, whether partially or wholly supported by Title I funds, is considered a Title I project and a child participating in such a project, regardless of the child's level of participation in it or other programs, is considered a Title I child.

The primary data sources for this chapter are official figures released by USOE's Division of Compensatory Education, that division's Annual Statistical Reports, State Title I Annual Evaluation Reports, and the two national surveys of compensatory education that have reported their findings to date (USDHEW/OE, Education of the Disadvantaged, April 1970; and Glass, 1970). The Division of Compensatory Education official figures, their annual reports, and State Title I Annual Evaluation Reports relate primarily to public elementary and secondary school children within Title I designated districts. The two compensatory education surveys also provide nationally representative district-wide data, but most of their data at the school and participant level are representative of only Title I public elementary schools and their children. The reader interested in the characteristics of the above data sources and their limitations is referred to Chapter 2.

National-level Resource Allocation

The intent of this section is to provide a national picture of local education agency (LEA) Title I resource allocation between FY 66, the first year of program operation, and FY 70, the last year for which complete data were available. National authorizations, appropriations, and LEA expenditures are detailed, program participation is discussed, and per-pupil expenditures by educational and support services are described.

A brief sketch of resource allocation based upon state level information is also provided. The primary objective is to evaluate the resource allocation process at the national level on the basis of data collected by both national and state agencies.

National-level Statistics and Survey Data

Title I resource allocation between FY 66 and FY 70 is summarized in Table 6.1. As illustrated in that table, there was a 25.7 percent increase in the total number of children included in the authorization formula between FY 66 and FY 70, all of which can be attributed to an increase in the number of children from families receiving Aid to Families with Dependent Children (AFDC) and increases in the number of eligible neglected, delinquent, and foster home children. The count of children from families below the poverty line (economically disadvantaged in Table 6.1) has remained constant through the years due to the legislative requirement that those figures be based upon the latest census figures. The latest census figures available between FY 66 and FY 70 were the 1960 census figures.

Apparently, the largest single group of eligible children, the economically disadvantaged, are legislatively prevented from influencing, by their number, annual Title I authorizations during those years between census data collection. That fact suggests that a more equitable means of determining authorizations could be achieved if Title I legislation were modified to permit the use of Census Bureau "projections" between those ten years when more accurate data are unavailable.

Corresponding to the 25.7 percent increase in the total number of children used in the authorization formula over the years has been a 105 percent increase in the authorizations determined by formula. However, as indicated in the third major row of Table 6.1, annual Congressional appropriations since FY 67 have been less than the authorizations determined by formula. The proportion of the authorizations actually appropriated by Congress since FY 67 has regularly decreased to a low of approximately 50 percent in FY 69 and FY 70. Although the need for compensatory services and the authorizations for those services as determined by formula have increased, the proportion actually appropriated has decreased. Clearly, Congress has not complied with the spirit and intent of the very legislation that they enacted.

Also illustrated in Table 6.1 is a trend toward increased participation in Title I programs between FY 66 and FY 68 followed by a reverse trend in following years. Comparison of the participation figures to the Title I per-pupil expenditure figures in Table 6.1 suggests that during the years of increased participation per-pupil expenditures increased. Although those data suggest a recent trend toward concentration of services, presumably on the most needy, the average Title I per-pupil expenditure is still considerably less than the one-half of regular per-pupil expenditure suggested by Title I guidelines (Program Guide

TABLE 6.1

Local Educational Agency Title I Authorizations, Appropriations, and Expenditures for Fiscal Years 1966 through 1970[1]

	Fiscal Year				
	1966	1967	1968	1969	1970
Children Counted for LEA Authorizations					
◦ Economically Disadvantaged	4,948,140	4,948,140	4,948,140	4,948,140	4,948,140
◦ AFDC	582,578	857,651	1,211,652	1,501,515	1,780,566
◦ Neglected or Delinquent	not eligible	64,750	69,273	71,462	66,966
◦ Foster Homes	not eligible	148,695	148,695	144,302	156,622
◦ TOTAL	5,530,718	6,019,236	6,377,760	6,665,419	6,952,294
LEA Authorizations	$ 1,164,529,100	1,345,820,593	1,804,963,018	2,072,075,264	2,392,422,065
LEA Appropriations	$ 1,164,529,100	1,015,152,657	1,100,287,599	1,020,438,980	1,219,165,528
◦ Percent of Authorization	100.0	75.4	61.0	49.2	51.0
LEA Expenditures	$ 969,934,724	978,467,209	1,070,223,904	999,717,909	1,092,625,151
◦ Percent of Appropriations	83.3	96.4	97.3	98.0	89.6
LEA Participants[2]	8,299,900	9,046,200	10,517,707	7,869,239	7,415,086
National Average Per-pupil Expenditure	$ 460.32	475.48	510.68	555.30	612.48
LEA Average Title I Per-pupil Expenditure[3]	$ 116.86	108.16	101.75	127.04	147.35

1. Data from USDHEW/OE, *History of Title I, ESEA*, 1969; and USOE's Division of Compensatory Education.
2. Participation data from USOE's Division of Compensatory Education Annual Statistical Reports and USOE's Consolidated Program Information Reports.
3. Total expenditures divided by number of regular and summer participants.

#44). Apparently, some concentration of services and funds did take place during FY 69 and 70; however, the desired extent of concentration was limited by appropriation and participation levels.

The Title I allocation act for FY 66 was enacted after the school year began; consequently, as illustrated in Table 6.1, LEA's had some difficulty in expending the funds allocated to them. Further, since programs had already been planned and were in progress, an inordinant proportion of funds was expended for construction and equipment (see Table 6.2). Since the first year of operations, however, there has been a regular increase in the proportion of funds assigned for instruction and a corresponding decrease in the proportion expended for construction and equipment. As indicated by Table 6.2, during FY 66 approximately 52 percent of all Title I funds were expended for instructional services and 33 percent for construction and equipment. During FY 70, 72.8 percent and 3.9 percent of all Title I funds were expended respectively in those categories. Expenditures in other categories have tended to remain relatively constant or have made small increases over the years.

Participation and expenditure data within the instructional and services categories were regularly provided by USOE's Division of Compensatory Education in their annual Title I statistical reports. Unfortunately, due to a change in questionnaire and analysis format, data from both the FY 69 report and the FY 70 Consolidated Program Information Report are not directly comparable to those available for earlier years and consequently are not discussed here. Table 6.3 summarizes data reported for the three years that were comparable.

If one assumes that the most critical needs of children in Title I elementary schools during FY 69 were not significantly different from those in Title I elementary and secondary schools during earlier years, comparison of Table 5.6 in the previous chapter to the figures in Table 6.3 provides some insight into the effectiveness of the resource allocation process. The most pressing needs of children in Title I elementary schools during FY 69 were in the areas of reading and language. During the three previous fiscal years the focus of compensatory projects was on those very same areas. Projects such as reading, language arts, and English as a second language were allocated the highest proportion of Title I instruction and service funds, they had the highest proportion of participants, and the highest per-pupil expenditures. Apparently, resource allocation during those early years was quite effective in terms of concentration on the most critical need of participating students.

The second most critical need identified in FY 69 was in the area of mathematics with 37 percent of all Title I elementary school children requiring such instruction (Table 5.6). Table 6.3 indicates that resource allocation in regard to mathematics was not in line with the need for such instruction. Only between 17 and 18 percent of the children in Title I schools during FY 66, 67, and 68 participated in mathematics programs, and only 3.6 to 5.1 percent of the instruction and service funds were allocated for such programs resulting in a per-pupil expenditure between

TABLE 6.2

Percentage of Local Educational Agency Title I Expenditures
by Account, Fiscal Years 1966 - 1970[1]

	Fiscal Year				
	1966	1967	1968	1969	1970
Instruction	51.5	65.7	68.8	71.8	72.8
Services					
Health	2.3	2.7	2.6	2.6	2.3
Food	2.2	3.2	2.9	2.9	2.7
Attendance	0.5	1.1	1.1	1.5	2.0
Transportation	1.7	1.7	1.8	1.6	1.8
Student Body Activities	0.2	0.2	0.2	0.2	0.2
Community Services	0.6	0.9	1.2	1.4	1.1
Administration	3.3	5.1	4.8	5.3	5.2
Construction	11.6	5.3	4.4	2.0	2.4
Equipment	21.3	7.8	5.0	2.9	1.5
Plant Operation	0.8	1.1	1.2	1.2	1.1
Plant Maintenance	0.7	0.5	0.6	0.5	0.4
Fixed Charges	3.3	4.7	5.4	6.1	6.5

1. Based upon data provided by the USOE, Division of Compensatory Education.

TABLE 6.3

Percentage of Participants, Expenditures, and Per-pupil Costs for Local Educational Agency Programs (Regular and Summer, Public and Nonpublic, Grades Pre-K - 12)[1]

	Fiscal Year 1966			Fiscal Year 1967			Fiscal Year 1968		
	% Part.	% Expend.	$ Per-pupil	% Part.	% Expend.	$ Per-pupil	% Part.	% Expend.	$ Per-pupil
Instruction									
Language Arts	53.0[2]	31.6	56.30	65.0	40.7	60.91	61.2	39.8	51.46
Mathematics	17.0	3.6	19.80	18.0	4.6	24.83	16.7	5.1	24.22
Science	15.0	3.0	19.20	11.0	1.6	14.28	9.2	1.6	13.81
Social Science	14.0	2.1	13.89	12.0	1.7	13.63	9.1	1.6	13.82
Cultural Activities	30.0	7.4	23.42	38.0	7.7	19.73	23.0	3.3	11.34
Physical Education	19.0	3.1	15.25	21.0	2.9	13.34	25.2	1.1	10.04
Services									
Health	24.0	2.9	11.15	28.0	2.6	8.96	24.4	2.6	8.23
Food	20.0	2.7	12.47	19.0	3.5	18.21	18.3	3.8	16.62
Pupil Personnel	23.0	3.1	12.51	26.0	4.5	16.99	24.1	5.3	17.42
Library	41.0	5.8	13.43	36.0	4.8	12.89	34.2	5.1	11.83
Transportation	21.0	2.1	9.30	18.0	1.7	9.26	21.1	1.8	6.93

1. Data derived from Fiscal Year 1966 - 1969 USOE, Division of Compensatory Education Annual Statistical Reports.

2. Percentages and dollars nonadditive because many children participated in more than one program and all expenditure areas are not included in the table.

$20 and $25. Under the assumption that FY 69 needs reflect those of earlier years, resource allocation during those years failed to meet students' critical need for compensatory mathematics instruction.

The third most critical need according to FY 69 teacher estimates was in the area of cultural enrichment (Table 5.6). As illustrated in Table 6.3, resource allocation in terms of participation and expenditures during the three previous years apparently was effectively focused on that need. However, there was a trend between FY 66 and FY 69 to reduce per-pupil expenditures in that area. Participation figures in Table 6.3 also indicated that, during the first two years, the proportion of students participating in cultural activities was in approximate proportion to the need (27.0 percent) in FY 69; however, during FY 68, participation was proportionately lower than the need the following year. It appears that during the early years of Title I resource allocation was effectively directed at the need for cultural enrichment; however, that allocation of resources apparently reduced the effectiveness of resource allocation to the more critical need for compensatory mathematics.

Comparison of Table 5.6 and 6.3 indicates that participation in health and food service programs during early years of Title I was disproportionate to the need. Approximately twice as many children received health services and three times as many received food services as were judged to have critical needs in FY 69. The over allocation of resources for food and health programs also probably adversely affected allocation of resources to the more critical area of remedial mathematics instruction.

In summary, under the assumption that estimates of critical needs as perceived by teachers in FY 69 were similar to those of earlier years, resource allocation during those early years was in line with needs in the areas of language arts and cultural enrichment, while resources were under allocated in the areas of mathematics and over allocated for health and food services. Furthermore, as indicated in the last section of this chapter, during FY 69 the resource allocation picture in terms of the match between needs and the allocation of services was even less successful.

State Title I Annual Evaluation Report Data

Analysis of the 46 FY 69 and 45 FY 70 State Title I Annual Evaluation Reports that were available for review provided additional data relating to resource allocation. The specific characteristics of those reports and the limitations of their data were discussed in Chapter 2 where it was mentioned that the resource allocation data they presented were considerably more comprehensive and apparently more valid than the reported cognitive achievement data. Unfortunately, because not all the states reported resource allocation data and because those that did employed many different summarizing formats, the aggregate of usable data is not representative of the nation as a whole. Nevertheless, in most cases the data are representative of the states reporting them. The following paragraphs summarize those data deemed to be reliable and representative of statewide participation and expenditures.

TABLE 6.4

Pupil Participation in Title I

State or Territory	No. of Participants		Increase or (Decrease)	Percent Change
	FY 69	FY 70		
Alabama	664,271	777,634	113,363	17.1
Alaska	12,463	16,777	4,314	34.6
Arizona	103,294	61,930	(41,364)	(40.0)
Arkansas	149,616	154,524	4,908	3.3
California	251,311	223,723	(27,588)	(11.0)
Colorado	53,355	38,600	(14,755)	(27.7)
Connecticut	33,579	41,505	7,926	23.6
Delaware	10,313	RNA		
Dist. of Columbia	RNA			
Florida	197,523	107,496	(90,027)	(45.6)
Georgia	204,024	RNA		
Hawaii	8,891	7,874	(1,017)	(11.4)
Idaho	34,742	38,592	3,850	11.1
Illinois	201,533	RNA		
Indiana	154,493	123,847	(30,646)	(19.8)
Iowa	95,547	114,084	18,537	19.4
Kansas	64,481	69,299	4,818	7.5
Louisiana	228,030	157,949	(70,081)	(30.7)
Maine	38,115	33,459	(4,656)	(12.2)
Maryland	RNA	56,781		

TABLE 6.4, cont'd

Pupil Participation in Title I

State or Territory	No. of Participants FY 69	FY 70	Increase or (Decrease)	Percent Change
Massachusetts	103,071	69,824	(33,247)	(32.3)
Michigan	147,452	110,706	(36,746)	(24.9)
Minnesota	55,500	RNA		
Mississippi	266,190	318,424	52,234	19.6
Missouri	128,878	119,767	(9,111)	(7.1)
Montana	12,081	7,420	(4,661)	(38.6)
Nebraska	38,758	78,229	39,471	101.8
Nevada	1,958	1,329	(629)	(32.1)
New Jersey	133,149	78,303	(54,846)	(41.2)
New Mexico	50,228	51,064	836	1.7
North Carolina	273,386	260,582	(12,804)	(4.7)
North Dakota	63,875	49,036	(14,839)	(23.2)
Ohio	165,047	159,239	(5,808)	(3.5)
Oklahoma	166,852	RNA		
Oregon	32,494	34,445	1,951	6.0
Pennsylvania	298,178	265,556	(32,622)	(10.9)
Rhode Island	16,705	16,843	138	0.8
South Carolina	320,128	313,101	(7,027)	(2.2)
South Dakota	36,865	35,396	(1,469)	(4.0)
Tennessee	222,877			

TABLE 6.4, cont'd

Pupil Participation in Title I

State or Territory	No. of Participants FY 69	 FY 70	Increase or (Decrease)	Percent Change
Texas	RNA	467,858		
Utah	12,902	10,796	(2,106)	(16.3)
Vermont	14,471	14,239	(232)	(1.6)
Virginia	148,310	142,416	(5,894)	(4.0)
Washington	62,491	72,054	9,563	15.3
West Virginia	95,493	88,871	(6,622)	(6.9)
Wisconsin	65,667	63,101	(2,566)	(3.9)
Wyoming	20,912	16,289	(4,623)	(22.1)
Guam	7,388	5,517	(1,871)	(25.3)
Puerto Rico	RNA	679,437		
Median	80,580	69,824	(3,598)	(5.8)
Range	1,958 to 664,271	1,329 to 777,634	(90,027) to 113,363	(45.6) to 101.8
Number Reporting	46	43	40	40

RNA = Report Not Available

Participation in State Title I Programs. State Title I program participation across states is illustrated in Table 6.4. Data on participation were included in all 46 available reports for FY 69; however, the District of Columbia and Tennessee failed to provide the desired information in their FY 70 reports. The figures in Table 6.4 include migratory, institutionalized, and LEA participants, and, in most cases, are based upon duplicated counts of children participating in more than one project.

The last rows of Table 6.4 indicate that 46 states reported data for FY 69, 43 for FY 70, and 40 states provided participation data for both years. Median participation figures suggest that participation in state Title I programs dropped by about six percent between FY 69 and FY 70, as was indicated in Table 6.1. Large participation differences between states for both fiscal years are illustrated in Table 6.4 by the range of participation figures. State Title I program participation ranged from 1,958 in Nevada to 664,271 in Alabama during FY 69. A similar range of participation was evidenced during FY 70 with Nevada again reporting the lowest participation figures and Alabama again the highest. Those figures vividly illustrate the large variation across states in Title I program participation and suggest a similar variation in the magnitude of the Title I administrative task that states must face.

An attempt was made to obtain from state reports data on the distribution of Title I participants across grade levels. Such data were provided by grade level or grade band in only 16 FY 69 state reports and 15 FY 70 reports. Those data are presented in Table 6.5 which gives the percentage of total participation by grade band. The figures in those tables should be considered only approximations since there was considerable variation in the manner they were reported. Some states reported data for the regular school term, others reported regular and summer, and a few included children not even enrolled in school.

The last three rows of Table 6.5 suggest a relatively even distribution of participation by grade band; however, during FY 70 there appeared to be some shift in the direction of greater elementary school and less junior high and high school participation. The evenness of the distribution of participation by grade band during both years appears to be an artifact resulting from the way grades were grouped into bands. When data from the smaller number of states that reported participation by grade level were analyzed, it was found that participation during FY 69 was as follows: preschool and kindergarten, 4.6 percent; elementary grades, 60.8 percent; junior high, 21.7 percent; and high school, 11.8 percent. In FY 70 the corresponding percentages were 4.6, 64.9, 17.3, and 9.6 respectively. (The sum of these percentages is less than 100 because some students attended ungraded classes).

Nonpublic school participation in state Title I programs is depicted in Table 6.6 in terms of percentages for the 44 states and outlying territories that reported such data in FY 69 and the 42 that reported data in FY 70. During FY 69 the median percentage of nonpublic participation was 5.8 percent with a range from 0.4 percent to 16.1 percent,

TABLE 6.5

Grade Band Distribution of Title I Participants

State or Territory	FY 69 Percentages PreK-3	FY 69 Percentages 4 - 6	FY 69 Percentages 7 - 12	FY 69 N	FY 70 Percentages PreK-3	FY 70 Percentages 4 - 6	FY 70 Percentages 7 - 12	FY 70 N	Increase or (Decrease) Percentages PreK-3	Increase or (Decrease) Percentages 4 - 6	Increase or (Decrease) Percentages 7 - 12	Increase or (Decrease) N
California	44.0	24.0	32.0	248,533	53.0	33.8	13.2	218,321	9.0	9.8	(18.8)	(30,212)
Colorado	34.8	22.9	42.3	39,503								
Hawaii	33.2	16.9	49.9	8,515								
Idaho	33.0	28.9	38.1	34,782	25.6	24.2	50.2	38,592	(7.4)	(4.7)	12.1	3,810
Kansas	30.8	36.7	32.5	63,787	38.3	30.0	31.7	68,360	7.5	(6.7)	(0.8)	4,573
Louisiana	29.9	29.8	40.2	221,338	35.0	30.2	34.8	155,207	5.1	0.4	(5.4)	(66,131)
Massachusetts	45.2	31.1	23.7	101,375	59.8	32.3	7.9	68,559	14.6	1.2	(15.8)	(32,816)
Mississippi	30.6	28.3	41.0	318,337								
Missouri					34.1	31.7	34.1	115,787				
Montana	40.9	24.1	35.0	11,573	30.2	30.4	39.4	7,005	(10.7)	6.3	4.4	(4,568)
Nevada	45.7	43.6	10.7	1,957	55.2	41.9	2.9	1,331	9.5	(1.7)	(7.8)	(626)
New Jersey	39.0	33.2	27.8	166,683								
Oregon	38.1	29.5	32.3	32,202	42.8	28.5	28.7	34,445	4.7	(1.0)	(3.6)	2,243
Rhode Island	54.9	30.7	14.4	15,789	54.0	30.8	15.3	16,335	(0.9)	0.1	0.9	546
South Carolina					32.4	29.4	38.2	358,358				
South Dakota	39.4	29.2	31.4	36,654	43.0	30.4	26.6	35,008	3.6	1.2	(4.8)	(1,646)
Virginia	38.8	33.5	27.7	140,034	53.2	26.5	20.3	161,478	14.4	(7.0)	(7.4)	21,444
Wisconsin	42.3	29.2	28.6	56,154	55.0	26.5	18.5	61,716	12.7	(2.7)	(10.1)	5,562
Wyoming					35.7	30.6	33.7	15,461				
Median	38.9	29.3	32.2	47,828	42.8	30.4	28.7	61,716	6.3	(0.4)	(5.1)	(40)
Range	29.9 to 54.9	16.9 to 43.6	10.7 to 49.9	1,957 to 318,337	25.6 to 59.8	24.2 to 41.9	2.9 to 50.2	1,331 to 358,358	(10.7) to 14.6	(7.0) to 9.8	(18.8) to 12.1	(66,131) to 21,444
Number	16	16	16	16	15	15	15	15	12	12	12	12

TABLE 6.6

Title I Participation by Pupils in Nonpublic Schools

State or Territory	Percent FY 69	Percent FY 70	% Increase or (Decrease)
Alabama	1.0	0.7	(0.3)
Alaska	8.4	3.1	(5.3)
Arizona		6.6	
Arkansas	0.6	0.8	0.2
California	6.0	3.6	(2.4)
Colorado	6.0	6.2	0.2
Connecticut	10.3	10.7	0.4
Delaware	5.5	RNA	
Dist. of Columbia	RNA		
Florida	5.0	2.9	(2.1)
Georgia	0.6	RNA	
Hawaii	6.0	3.5	(2.5)
Idaho	1.9	2.0	0.1
Illinois	7.9	RNA	
Indiana	6.3	3.9	(2.4)
Iowa	10.8	9.9	(0.9)
Kansas	10.2	4.4	(5.8)
Louisiana	4.5	6.0	1.5
Maine	5.7	6.5	0.8
Maryland	RNA	5.1	

TABLE 6.6, cont'd

Title I Participation by Pupils in Nonpublic Schools

State or Territory	Percent FY 69	Percent FY 70	% Increase or (Decrease)
Massachusetts	16.1	17.5	1.4
Michigan	10.0	7.7	(2.3)
Minnesota	9.0	RNA	
Mississippi	0.5	0.2	(0.3)
Missouri	5.3	4.2	(1.1)
Montana	12.3	5.7	(6.6)
Nebraska	5.8	4.0	(1.8)
Nevada	3.4	4.4	1.0
New Jersey	7.8	10.4	2.6
New Mexico	8.2	8.8	0.6
North Carolina	0.4	0.5	0.1
North Dakota	8.9	9.4	0.5
Ohio	4.5	4.5	0.0
Oklahoma	0.6	RNA	
Oregon	5.5	3.7	(1.8)
Pennsylvania	15.8	11.8	(4.0)
Rhode Island	12.5	10.2	(2.3)
South Carolina	0.5	0.4	(0.1)
South Dakota	9.6	9.0	(0.6)
Tennessee	2.0		

TABLE 6.6, cont'd

Title I Participation by Pupils in Nonpublic Schools

State or Territory	Percent FY 69	Percent FY 70	% Increase or (Decrease)
Texas	RNA	2.4	
Utah	0.6	0.5	(0.1)
Vermont	0.7	6.4	5.7
Virginia			
Washington	5.4	6.7	1.3
West Virginia	1.7	1.5	(0.2)
Wisconsin	8.0	5.6	(2.4)
Wyoming	4.2	3.2	(1.0)
Guam	14.6	9.1	(5.5)
Puerto Rico	RNA	1.1	
Median	5.8	4.4	(0.3)
Range	0.4 to 16.1	0.2 to 17.5	(6.8) to 5.7
Number	44	42	38

indicating considerable variation among states. There appeared to be a drop in nonpublic school participation in FY 70. However, the median percentage reduction for those states that reported data for both years was only - 0.3 percent. Again, the large range in that shift suggests considerable variation among states in terms of year-to-year nonpublic participation.

Data relating to the proportion of all nonpublic students served in each state or the proportion of all eligible nonpublic served were not available in the state reports. The critical questions, then, of whether a reasonable proportion of all nonpublic school children are being served and whether those who are served have the most critical needs are left unanswered by the state reports.

The distribution of public-nonpublic school participation by grade level was provided by 11 states in their FY 69 reports. Those data revealed that nonpublic school participation in elementary grades was proportionately greater than that for public schools. When FY 70 data were examined, similar trends were noted; however, there was a trend towards even greater participation in the elementary grades during FY 70, as suggested earlier in Table 6.5. The reader is reminded that those trends are based upon the approximately 20 percent of all the states, those that reported usable data for one or both fiscal years.

An attempt to obtain data from state reports on participation by ethnic groups ended in failure. Only six states reported the distribution of Title I participants across ethnic groups, and only three of those states provided that information for both FY 69 and FY 70. Rather than summarize data from such a small number of states that in their aggregate are clearly not representative of the nation or any region thereof, discussion of ethnic group participation in Title I programs is relegated to sections of this chapter dealing with other data sources.

To summarize, participation data available in FY 69 and FY 70 State Title I Annual Evaluation Reports clearly indicate that there was considerable variation among states in terms of Title I student participation, concentration of participation at various grade levels, and in the proportion of participants from nonpublic schools. Perhaps the greatest contribution of state reports is in illustrating the wide variation among states. However, when considered in their aggregate, they do suggest one trend that will be substantiated by more representative data later in this chapter; namely, participation in Title I projects has tended to be concentrated in the elementary grades where, presumably, compensatory education can do the most good.

State Title I Expenditures. Total state Title I program expenditures were presented in approximately one-half of the State Title I Annual Evaluation Reports for both FY 69 and FY 70. Available figures are summarized by fiscal year in Table 6.7. The mean expenditure figures for the two fiscal years suggest that there was approximately a 0.8 million

TABLE 6.7

Title I Expenditures Presented by State

State or Territory	FY 69	FY 70	Increase or (Decrease)	Percent Change
Alabama	$	$ 40,580,250	$	
Arizona	6,760,821	7,195,996	435,175	6.4
Arkansas	22,505,629	21,522,592	(983,037)	(4.4)
California	70,093,000	63,818,240	(6,274,660)	(9.0)
Colorado	7,111,714	8,773,735	1,662,021	23.4
Hawaii	2,048,479	2,606,146	557,667	27.2
Idaho		1,882,422		
Illinois	32,173,079			
Kansas	9,934,956	10,642,167	707,211	7.1
Louisiana	28,236,296	32,598,848	4,362,552	15.5
Maine	3,350,914			
Maryland	RNA	10,350,353		
Mississippi	36,343,610			
Montana	2,996,462	2,704,158	(292,304)	(9.8)
Nebraska	5,063,253	5,836,290	773,037	15.3
Nevada	803,100			
New Jersey	20,334,362			
New Mexico	9,935,682	8,859,144	(1,076,538)	(10.8)
North Dakota	3,711,136			
Ohio	30,358,091	35,694,314	5,336,223	17.6

TABLE 6.7, cont'd

Title I Expenditures Presented by State

State or Territory	FY 69	FY 70	Increase or (Decrease)	Percent Change
Oklahoma	$ 13,834,872	$ RNA	$	
Oregon	6,057,342	6,315,505	258,163	4.3
Pennsylvania	42,053,472	48,500,000	6,446,528	15.3
Rhode Island	3,100,856	3,464,714	363,858	11.7
South Carolina	29,075,524	33,148,316	4,072,792	14.0
South Dakota	5,314,910	5,144,950	(169,960)	(3.2)
Virginia	25,355,773	30,013,202	4,657,429	18.4
Wisconsin	13,512,957	15,520,746	2,007,789	14.9
Wyoming		1,129,222		
Mean	$ 17,202,652	$ 18,013,696	$ 1,269,107	
Range	803,100 to 70,093,000	1,129,222 to 63,818,240	(6,274,666) to 6,446,528	(10.8) to 27.2
Number	25	22	18	18

Note: Most of the states included in the table did not indicate in their annual report whether the cost figures were appropriated or expended amounts. Also some of the figures in this table represent only estimated expenditures since those were the only figures provided by some states.

RNA = Report Not Available

dollar increase in per-state expenditures from FY 69 to FY 70. This figure, however, is deceptively low since the mean per-state expenditures for those 7 states which reported in FY 69 but not in FY 70 was more than 2 million dollars higher than the mean of the 4 states reporting in FY 70 but not in FY 69. Considering only the 18 states which reported expenditures for both years, the mean increase was $1,269,107 per state. The range of expenditures for those states reporting data was from approximately 8 hundred thousand to 70 million dollars in FY 69 and 1 million to 64 million dollars in FY 70. Clearly, that large variation in state expenditure should be considered when interpreting figures such as those in Table 6.7 which represent average figures across states. It is unfortunate that most state and national surveys of compensatory education have failed to provide some index of variability within and across sampling units and that the only indication of such variability available is the often inadequate state data presented here.

Table 6.8 summarizes data that were available in state reports regarding regular per-pupil expenditure and Title I supplemental per-pupil expenditures for FY 69 and FY 70. All the Title I per-pupil expenditures were calculated by dividing the total Title I expenditure figures reported by each state by their total participation figures. Those figures should be considered estimates at best since the extent of duplication included in the count of participants by states and the exact expenditure categories included are unknown. However, of the 14 states that calculated their own per-pupil expenditures, their figures deviated from those in Table 6.8 by only a few dollars.

The mean per-pupil Title I expenditure across the states in Table 6.8 was $164 during FY 69 and $184 in FY 70. Also, as indicated in the Range row of Table 6.8, the variation of Title I per-pupil expenditures across states was considerable. Again the reader is reminded that those figures should only be considered estimates and they are presented here only to provide some indication of the range of expenditure across states.

The first column of Table 6.8 indicates the total per-pupil expenditure of those states that provided enough information from which the other figures in the table could be calculated. Column one figures were derived from the White House Conference on Children's publication, entitled Profiles of Children (Root & Cata, 1970). A rank-order correlation between the FY 69 total per-pupil expenditures and the Title I per-pupil expenditures across states for the same fiscal year was calculated and found to equal .61. That correlation suggests that there was a relatively strong relationship between total per-pupil expenditures and Title I per-pupil expenditures with higher Title I expenditures being related to higher total per-pupil expenditures. As suggested by that relationship and as indicated later by more representative data, states and districts with the highest per-pupil expenditures receive a disproportionately large share of Title I monies.

State Title I Programs. Review of the available State Title I Annual Evaluation Reports for FY 69 and 70 indicated that only eight

TABLE 6.8

Estimated Per-pupil Expenditure Presented by State

State or Territory	Total Per-pupil Exp. FY 69[1]	Title I Per-pupil Expenditure[2]			
		FY 69	FY 70	Increase or (Decrease)	Percent Change
Arizona	$ 648	$ 65	$ 116	$ 51	78.5
Arkansas	486	150	139	(11)	(7.3)
California	665	279	285	6	2.2
Colorado	662	133	227	94	70.7
Hawaii	724	230	331	101	43.9
Idaho			49		
Indiana	635	160			
Kansas	647	154	154	0	0.0
Louisiana	632	124	206	82	66.1
Maine	567	88			
Maryland		RNA	182		
Mississippi	462	137			
Montana	761	248	362	114	46.0
Nebraska	510	131	75	(56)	(42.7)
Nevada	648	410			
New Jersey	852	153			
New Mexico	676	198	173	(25)	(12.6)
North Dakota	585	58			
Ohio	634	184	224	40	21.7
Oklahoma	516	83	RNA		

TABLE 6.8, cont'd

Estimated Per-pupil Expenditure Presented by State

State or Territory	Total Per-pupil Exp.[1]	Title I Per-pupil Expenditure[2]			
		FY 69	FY 70	Increase or (Decrease)	Percent Change
Oregon	793	186	183	(3)	(1.6)
Pennsylvania	743	141	183	42	29.8
Rhode Island	840	186	206	20	10.8
South Carolina	478	91	106	15	16.5
South Dakota	589	144	145	1	0.7
Virginia	600	171	211	40	23.4
Wisconsin	787	206	246	40	19.4
Wyoming			69		
Mean	$ 645	$ 164	$ 184	$ 31	24.7
Range	$ 462 to 852	$ 58 to 410	$ 49 to 362	$(56) to 116	(42.7) to 78.5
Number	25	25	21	18	18

1. Estimated total expenditures per-pupil in average daily attendance in public elementary and secondary day schools do not include capital outlay nor interest on school debt (Root & Cata, 1970).

2. Title I per-pupil cost figures were computed from available data reported in the State Title I Annual Evaluation Reports. The total Title I cost figure for the state was divided by the reported total participation figure.

RNA = Report Not Available

TABLE 6.9

Title I Expenditures for Instructional and Supportive Programs Presented by State

	Fiscal Year 1969				Fiscal Year 1970			
	Program Costs		Percent Instructional		Program Costs		Percent Instructional	
	Instructional Activities	Supportive Activities	Costs	Participation	Instructional Activities	Supportive Activities	Costs	Participation
Alabama	$	$			$ 23,010,441	$ 7,207,760	76.1	61.5
Arkansas	10,094,682	7,769,087	56.5	32.8	10,683,453	7,342,882	59.3	27.5
California					46,275,954	4,783,264	90.6	51.7
Colorado	4,471,924	268,630	94.3	80.1				
Hawaii	1,488,940	474,509	75.8	52.1				
Idaho	483,770				1,035,891	732,614	58.6	60.9
Louisiana	10,563,318	5,260,974	66.8	53.3	14,534,832	14,168,439	50.6	51.9
Nebraska	3,944,361	1,118,892	77.9	55.8	2,955,689	794,033	78.8	47.7
New Jersey	15,652,210	4,469,702	77.8	56.2				
North Dakota	2,669,779	494,766	84.4	56.7	2,809,366			
Ohio	9,516,279	2,412,212	79.8	39.5	35,694,314			
Oklahoma	7,418,000	5,060,399	59.4	41.9				
Oregon	4,467,685	1,050,365	81.0	64.6	4,806,205	798,493	85.8	70.5
Pennsylvania	17,696,567	11,170,891	61.3	45.8	20,619,701	9,398,087	68.7	56.2
Rhode Island					1,050,000			
South Carolina	15,203,995	10,019,576	60.3	45.3		2,996,700		
South Dakota	3,587,223	358,680	90.9	63.4	3,139,364	908,565	77.6	62.8
Utah					710,678	278,636	71.8	76.5
Virginia	15,966,349	4,356,770	78.6	55.4	15,884,760	4,671,142	77.3	52.5
Washington					6,762,546	799,766	89.4	80.5
Wyoming						25,265		
Mean	$ 8,215,005	$ 3,877,532	67.9		$ 12,664,880	$ 3,921,832	73.7	
Range	483,770 to 17,696,567	268,630 to 11,170,891	56.5 to 94.3	32.8 to 80.1	710,678 to 46,275,954	25,265 to 14,168,439	50.6 to 90.6	27.5 to 80.5
Number	15	14	14	14	15	14	12	12

states provided resource allocation figures for regular school year and summer session programs. Although those data are clearly not representative of the nation, they are briefly discussed here to provide some rough indication of the proportion of Title I expenditures that were allocated to summer programs and the proportion of participants that attended summer programs. Across fiscal years, the proportion of Title I expenditures used for summer programs ranged from 9 percent to 36 percent, and the median was 16 percent. It is interesting to note that the median summer session Title I expenditure for the eight states that provided data was in the same proportion as the duration of summer session programs are to regular session programs, i.e., 6 weeks to 36 weeks or 16 percent. Participation in summer programs ranged from 17 percent to 40 percent of all participants and the median proportion for all participants across states was approximately 27 percent. Although those data are not representative of the nation as a whole, they do give some indication of the variation in summer session expenditures and participation.

Title I expenditures for instructional and supportive activities and the percentage of all participants in instructional programs are presented in Table 6.9 for those 19 states which provided that information or enough data so it could be derived. Included in the instructional activities category are programs such as reading, language arts, speech, English as a second language, mathematics, science, and other academic programs. The supportive service category included clothing, food, health, pupil personnel, library, and similar programs and services. There are many limitations on the data presented in that table and consequently, they should be interpreted with extreme caution. Again, their most valuable contribution is the indication they provide of the variation across states.

Table 6.9 shows that the mean expenditures for instructional activities across 15 states during FY 69 was approximately 8.2 million dollars and the mean expenditure for supportive activities was nearly 3.9 million dollars. In FY 70 the mean expenditure for instructional services increased more than 4 million dollars to $12,664,880 while mean expenditures for supportive activities increased less than $50,000 to $3,921,832. During FY 69 67.9 percent of all Title I instructional/supportive expenditures across those 15 states were for instructional activities while in FY 70, the average across 12 states was 73.7 percent. The Range row of Table 6.9 points out that there was considerable variation among states in terms of those expenditures and participation figures.

In summary, data derived from State Title I Annual Evaluation Reports are not representative of the nation as a whole or of any aggregate of states. In some cases they are not even representative of the LEA's within the very states that provided data. The primary value of those data is in suggesting the extent of variation across states in terms of Title I resource allocation. For any other purpose, data in other sections of this report should be considered more representative of actual Title I operation.

District-level Resource Allocation

The Title I resource allocation process tends to become clarified as the unit of analysis becomes smaller. In this section the unit of analysis progresses down from the nation as a whole to school districts within the nation. School district Title I allocations, participation, and per-pupil expenditures are discussed in terms of various district characteristics. Most of the information presented is based upon the FY 68 and FY 69 Surveys of Compensatory Education. All data, however, are representative of the situation during FY 69 since relevant data reported by the FY 68 survey were collected in a supplemental survey conducted during January 1969. Data summarized are representative of Title I districts enrolling 300 or more pupils during FY 69, their public elementary and secondary schools, and the children within the schools. The last section, however, deals only with the elementary schools in those districts.

Title I Funds Allocation

Table 6.10 summarizes the allocation of Title I funds to districts in terms of their concentration and number of low-income children. As illustrated by Table 6.10, 75.8 percent of all Title I districts enrolling 300 or more students during FY 69 were districts with low concentrations of children from families with annual incomes below the poverty line. Most low-income children (63.2 percent), however, were within the boundaries of districts with moderate (32.1 percent) or high (31.1 percent) concentrations of low-income children. During FY 69, districts with the lowest concentration of low-income children were allocated disproportionately more Title I funds than their number of low-income children would warrant, while districts with concentrations of 4,000 to 5,999 poor children received a disproportionately small Title I allocation considering their number of low-income children. During FY 69, most low-income children (69.1 percent) were concentrated in a relatively few districts (12.5 percent) that had high concentrations of poor children and received less Title I funds than their numbers of low-income children would warrant.

The allocation process is further clarified by the Heading column of Table 6.11 which categories districts by their regular per-pupil expenditures. Approximately 32 percent of all Title I districts were low expenditure districts in FY 69, while 47.7 percent were moderate expenditure districts, and 20.3 percent were high expenditure districts. The FY 68 Survey of Compensatory Education estimated that the national average per-pupil expenditure in FY 69 was $525; however, on the basis of the official figures provided by the Division of Compensatory Education, the actual figure was slightly higher, $555 (see Table 6.1). Table 6.11 suggests that in FY 69 most children in Title I districts attended schools with per-pupil expenditures below the national average.

Comparison of the concentration of low-income children in each regular per-pupil expenditure category to the proportion of Title I funds

TABLE 6.10

Number of Districts, Low-income Children, and Title I Allocation by Concentration of Low-income Children in the Districts. Data Projected from the 1969 Supplementary Survey Reported in the FY 68 Compensatory Education Survey Final Report.

		Concentration of Low-income Children in District				
		Fewer than 500	500-999	1,000-3,999	4,000-5,999	6,000 and over
Districts	No.	8,317	1,290	1,176	83	113
	%	75.8	11.7	10.7	0.8	1.0
Low-income Children (age 5-17)	No.	1,234,087	876,175	2,199,650	405,018	2,128,820
	%	18.1	12.8	32.1	5.9	31.1
Title I Allocation	$	224,476,578	131,617,474	339,705,413	51,043,152	326,828,323
	%	20.9	12.3	31.6	4.8	30.4

TABLE 6.11

District Characteristics by Percent of Participating Pupils. Percentages by Row except in the Heading Column. FY 69 Data Projected from a Representative Sample of Districts.[1]

Districts by Regular Per-pupil Expenditure	Percent of Pupils Participating in Title I Programs				
	0 - 26	26 - 50	51 - 75	75 - 100	Total
All					
Districts	64.3%	20.5%	2.8%	12.4%	10,979
Participants (19.2% of all K-12 students)	21.3%	24.9%	9.6%	44.2%	7,915,000
Title I Allocation	-	-	-	-	$ 1,073,770,940
Title I Expenditure per Participant	$243.27	$158.48	$199.73	$ 70.37	$141.53
Low-income Children	40.9%	26.3%	10.1%	22.7%	6,843,750
Less than $425					
Districts [32.0%]	38.6%	24.2%	7.7%	29.5%	3,546
Participants [57.6%]	10.0%	19.0%	8.9%	62.1%	4,559,000
Title I Allocation [43.7%]	-	-	-	-	$ 469,237,900
Title I Expenditure per Participant	$225.38	$158.38	$157.63	$ 66.40	$107.91
Low-income Children [45.9%]	-	-	-	-	3,141,281
$425 - 625					
Districts [47.7%]	75.3%	19.6%	0.6%	4.5%	5,237
Participants [32.5%]	38.2%	37.3%	3.0%	21.5%	2,574,000
Title I Allocation [39.9%]	-	-	-	-	$ 428,434,605
Title I Expenditure per Participant	$241.34	$159.54	$171.05	$ 82.58	$174.50
Low-income Children [44.1%]	-	-	-	-	3,018,094
$625 and Over					
Districts [20.3%]	78.9%	17.0%	0.01%	4.1%	2,196
Participants [9.9%]	28.8%	19.3%	36.3%	15.6%	782,000
Title I Allocation [16.4%]	-	-	-	-	$ 176,098,435
Title I Expenditure per Participant	$282.35	$152.31	$267.60	$106.55	$226.04
Low-income Children [10.0%]	-	-	-	-	684,375

---

1. Data derived from USDHEW/OE Education of the Disadvantaged, April 1970.

allocated to those districts in Table 6.11 suggests that high expenditure districts received a disproportionate share of Title I funds. Low expenditure districts with 45.9 percent of the low-income children received 43.7 percent of the funds, moderate expenditure districts had 44.1 percent of the low-income children and received 39.9 percent of the funds, while high expenditure districts with only 10.0 percent of the low-income children received 16.4 percent of the total Title I allocation. When districts are categorized by their regular per-pupil expenditures and allocations within those categories are compared to the concentration of low-income children within districts, the allocation process appears to favor districts with high regular per-pupil expenditures.

Participation and Title I Per-pupil Expenditures

The supplemental 1969 survey reported in the FY 68 Survey of Compensatory Education final report estimated that there were approximately 41.3 million students in grades kindergarten through twelve in the nation's public schools during FY 69. Table 6.11 points out that 7.9 million (19.2 percent) of them participated in one or more Title I projects within the boundaries of Title I districts enrolling 300 or more students. Approximately two-thirds of all districts concentrated their programs on 26 percent or less of the children they enrolled. Those same districts had more than 40 percent of all the low-income children within their boundaries. Most low-income children were concentrated in districts that served low (0 to 50 percent) proportions of their students, while 33 percent of the low-income children were in districts that served 51 percent or more of their children. In terms of participation, 44.2 percent of all Title I participants received compensatory services in districts that provided services to over 75 percent of their children. All districts served fewer than their total number of low-income children except for those districts in the high participation category which served approximately twice as many students as they had low-income children.

When districts are classified by regular per-pupil expenditures as in Table 6.11, it becomes obvious that participants are concentrated, as are low-income children, in low and moderate expenditure districts. Also low expenditure districts serve more children than their concentration of low-income children, moderate expenditure districts served approximately 12 percent less, and high expenditure districts served in proportion to their number of low-income children.

Table 6.11 also shows that 62.1 percent of the participants in low expenditure districts attended schools in districts where over 75 percent of the students received Title I services, while 48.1 percent of high expenditure district children and 75.5 percent of moderate expenditure children received services in districts that served less than 50 percent of their students in FY 69. Clearly, most participants were enrolled in low regular expenditure districts and most of them (62.1 percent) received their compensatory services in districts that served over 75 percent of their students.

Low expenditure districts also had the lowest Title I per-pupil expenditures due to the fact that they served more children than they had low-income children. Low regular expenditure districts during FY 69 had Title I per-pupil expenditures which were approximately 61.8 percent of those in moderate expenditure districts, and 47.7 percent of those in high expenditure districts. Even when concentration of participants is considered within regular expenditure categories, low regular expenditure districts are found to expend less Title I funds per pupil regardless of the percentage of students served by the district (see cell per-pupil figures within each category of regular expenditures in Table 6.11).

To summarize, during FY 69 approximately 19 percent of all public school children in grades kindergarten through twelve participated in one or more Title I projects within Title I districts that enrolled 300 or more students. Most low-income children (69.1 percent) were concentrated in relatively few districts (12.5 percent) that had high concentrations of poor children and received less Title I funds than their number of low-income children would warrant (Table 6.10). When Title I districts were categorized by their level of regular per-pupil expenditures (Table 6.11), it was discovered that most children were within the boundaries of districts that had per-pupil expenditures below the national average. Also, the funds allocation process favored high regular expenditure districts where the need was the least in terms of their numbers of low-income children. Most low-income children and Title I participants were concentrated in low regular expenditure districts that received a disproportionately low allocation of Title I funds, served a disproportionately large number of children, and had the lowest Title I per-pupil expenditure. Apparently, low expenditure districts have the greatest need, receive less funds than warranted by that need, and serve more children than they have poor within their boundaries at the lowest Title I per-pupil expenditure.

Elementary School Resource Allocation

Resource allocation to Title I districts, their elementary and secondary schools, and children in grades kindergarten through twelve were discussed above. This section and the remainder of the chapter focus on the allocation process at the elementary school level within those same districts. First, per-pupil expenditures of elementary schools within Title I districts are discussed and then the relationship of enrolled student characteristics to those expenditures are detailed. That discussion serves as a vehicle of transition to following sections that deal with elementary school student participation in Title I projects.

Elementary School Title I Expenditures

The distribution of elementary school pupils, grades two, four, and six, in Title I districts with various levels of Title I per-pupil expenditures during FY 69 appears in the last row of Table 6.12. Comparison of those figures to the average per-pupil expenditures in those districts

TABLE 6.12

Pupils Classified by Ethnic Group Membership and by Per-pupil Expenditure of Title I Funds. Bracketed Percentages by Column, others by Row. Projections Based on a Nationally Representative Sample of Districts, FY 69.[1]

Ethnic Group	School District Per-pupil Expenditure of Title I Funds						
	$ 0 - 99	$ 100 - 199	$ 200 - 299	$ 300 - 399	$ 400 - 699	No Response	Totals
Black	186,845 14.4	636,816 49.0	242,222 18.6	47,224 3.6	28,088 2.2	157,920 12.2	1,299,115 [22.7]
Spanish-surnamed & Other	68,276 18.4	119,351 32.2	95,833 25.9	16,780 4.5	17,893 4.8	52,302 14.1	370,435 [6.5]
White	765,028 19.1	1,426,105 35.7	700,397 17.5	116,886 2.9	60,942 1.5	930,240 23.2	3,999,598 [69.8]
No Response	10,622 16.4	25,400 39.2	10,906 16.8	1,413 2.2	1,835 2.8	14,650 22.6	64,826 [1.1]
Totals	1,030,771 18.0	2,207,672 38.5	1,049,358 18.3	182,303 3.2	108,758 1.9	1,155,112 20.1	5,733,974

---

1. Data derived from Glass, 1970.

during FY 69, $141.53 (see Table 6.11), indicates that 18 percent of the children were enrolled in districts that had per-pupil expenditures well below the average for all districts, and another 38.5 percent were in districts that had per-pupil expenditures that ranged between approximately $40 below to $50 above the average for all districts. However, 23.4 percent of the children were enrolled in districts that had per-pupil expenditures well above the average for all districts. The high no-response rate (20.1 percent) suggests that those figures be considered only approximations. Nevertheless, they do provide some evidence that about half of the children were enrolled in districts that had per-pupil expenditures equal to or less than the average for all districts during FY 69.

As mentioned previously, Program Guide #44 suggests that Title I per-pupil expenditures should equal approximately one-half of the regular per-pupil expenditures. Table 6.11 indicates that approximately 68 percent of all Title I districts had regular per-pupil expenditures during FY 69 of $425 or more; however, according to Table 6.12 only 23.4 percent of all children were enrolled in districts that had Title I per-pupil expenditures of $200 or more, the minimum figure that is suggested by the Title I guideline for districts with $400 regular per-pupil expenditures. That, coupled with the fact that 18.0 percent of all children enrolled in districts with per-pupil expenditures of less than $100 (Table 6.12) suggests that well over half of the children in Title I elementary schools were in schools that failed to comply with the expenditure guideline. However, the reader is again reminded that the high no-response rate lessens the strength of all conclusions based upon those data.

Table 6.12 also shows the relationship between ethnic group membership and the per-participating-pupil expenditures of Title I funds in their school districts. The figures in Table 6.12 suggest that minority children were more highly concentrated in the higher expenditure districts than were whites. It should be noted, however, that the no-response rate for white students was almost twice that for either of the other two ethnic groups, suggesting that if the nonresponding white children were systematically different from the responding white children, a different picture might emerge from this type of breakdown.

Table 6.13 illustrates the distribution of children classified by types of disadvantagement enrolled in elementary schools within districts with various average Title I per-pupil expenditures. As in the previous table, nonresponse rates are too high to consider the data other than approximate. Despite this difficulty, Chi Square analysis techniques were employed to assist in interpretation of those data. Analysis indicated that there was a disproportionately high concentration of children with severe multiple and severe economic disadvantagement in districts with $100 to $199 Title I per-pupil expenditures as opposed to districts with smaller or larger Title I expenditures. There was a corresponding disproportionately low concentration of nondisadvantaged children in districts in this expenditure category due, possibly, to the

TABLE 6.13

Pupils Classified by Per-participating-pupil Expenditure of Title I Funds and by Type of Disadvantagement, with Percents by Row. Projections Based on a Nationally Representative Sample of Districts, FY 69 (Glass, 1970).

Type of Disadvantagement	Per-pupil Expenditure of Title I Funds $ 0 - 99	$ 100 - 199	$ 200 - 299	$ 300 - 399	$ 400 - 699	No Response	Totals
Severe Multiple Disadvantage	58,691	157,478	38,566	10,712	3,818	48,510	317,775
	18.5	49.5	12.1	3.4	1.2	15.3	
Moderate Multiple Disadvantage	98,258	204,226	86,110	13,967	8,395	73,128	484,084
	20.3	42.2	17.8	2.9	1.7	15.1	
Educational Disadvantage	36,415	65,043	37,165	6,810	2,478	43,064	190,975
	19.1	34.0	19.5	3.6	1.3	22.5	
Severe Economic Disadvantage	86,216	219,418	57,034	10,993	7,643	53,155	434,459
	19.8	50.5	13.1	2.5	1.8	12.2	
Moderate Economic Disadvantage	321,183	647,153	293,027	49,645	36,927	277,938	1,625,873
	19.8	39.8	18.0	3.1	2.3	17.1	
Nondisadvantaged	488,251	817,847	412,922	81,365	41,312	619,227	2,460,924
	19.8	33.2	16.8	3.3	1.7	25.2	
No Response	40,076	81,748	40,978	8,812	8,184	40,091	219,889
	18.2	37.2	18.6	4.0	3.7	18.2	
Totals	1,129,090	2,192,913	965,802	182,304	108,757	1,155,113	5,733,979
	19.7	38.2	16.8	3.2	1.9	20.2	

unusually high no-response rate of nondisadvantaged children. Also of interest is the unusually high response rate observed for children in the severe economic disadvantagement category. Apparently, low Title I per-pupil expenditure districts ($100 to 199) have higher concentrations of severely disadvantaged children than do higher expenditure districts.

District Allocations of Title I Funds to their Schools

After a district has been allocated its Title I funds by the state, it may use one or more indices of economic disadvantagement to suballocate those funds to targeted schools. The most frequently used bases for suballocation were reported by the FY 69 Survey of Compensatory Education and appear in the first column of Table 6.14. The percentage

TABLE 6.14

Districts Classified by Regular Per-pupil Expenditure and Basis for Allocating Title I Funds with Percentages by Column. Projections based upon a Representative Sample of Districts, FY 69 (Glass, 1970).

Basis for Allocation to Schools used by the School District	Regular Per-pupil Expenditure Category			
	Less than $ 425	$ 425 - 625	More than $ 625	Totals
Family Income	2,159	1,862	642	4,663
	66.8	42.3	44.7	51.4
AFDC	1,827	3,037	1,140	6,004
	56.5	68.9	79.4	66.2
Free Lunches	1,520	1,542	693	3,755
	47.0	35.0	48.3	41.4
Unemployed	501	503	261	1,265
	15.5	11.4	18.2	13.9
Housing Quality	508	507	200	1,215
	15.7	11.5	13.9	13.4
Other Basis	689	1,390	363	2,442
	21.3	31.5	25.3	26.9
Total Unduplicated Number of Districts	3,233	4,406	1,436	9,075

of school districts that use those indices appear in the last column. Note that column percentages do not sum to 100 percent since districts often use more than one basis for suballocation of funds. Although districts may use a combination or none of those indices, 73.1 percent of all districts used at least one, while 26.9 percent used none of those indices. The most frequently used were the number of children from families receiving AFDC, family income, and number of children receiving free lunches.

When districts are classified by their regular per-pupil expenditures as in the second, third, and fourth columns of Table 6.14, some differences become apparent. Low expenditure districts most often use, alone or in combination with other indices, family income, AFDC, and free lunches, in that order of frequency. Moderate and high expenditure districts use the same three; however, the order of frequency for moderate districts is AFDC, family income, and free lunches, while the order in high expenditure districts is AFDC, free lunches, and family income. Apparently there is more reliance on the family income index in low expenditure districts than there is in higher expenditure districts, while the higher expenditure districts tend to depend more on AFDC figures. That trend may reflect the fact that there are fewer children from families below the poverty line in higher expenditure districts (Table 6.11).

Elementary School Student Participation

As indicated in Table 6.11, approximately 19.2 percent of the students in public elementary and secondary schools participated in one or more Title I projects during FY 69. During that same year, according to the FY 69 Survey of Compensatory Education, 68 percent of the children in grades two, four, and six within Title I districts participated in one or more compensatory programs supported by Title I or other funds. The FY 68 Survey of Compensatory Education was more specific in terms of funding source. During FY 68, 58 percent of all students enrolled in grades two, four, and six in Title I schools participated in some form of Title I-supported program. Those figures suggest that Title I project participation is concentrated at the elementary school level where presumably it can do the most good.

The FY 69 survey also reported that elementary school participation in any type of compensatory program was unrelated to school district size or school district location. In terms of gross allocation of resource measures then, resource allocation did not parallel the pattern of need across the various school locations or district sizes as reported in earlier chapters. The following paragraphs look at the relationship between program allocation and needs more closely and suggest that that allocation process is more in line with identified needs than suggested by analyses conducted at grosser levels.

Participation in Academic Programs. As illustrated in Table 6.15, the FY 68 Survey of Compensatory Education found that 35.5 percent of all

TABLE 6.15

Number of Participants in Title I Academic Programs by Ethnic Group, with Percent Distribution by Rows. Figures Projected from a Representative Sample of Districts, FY 68.[1]

Ethnic Group	Total	Classification of Disadvantagement					
		Severe Multiple	Moderate Multiple	Educationally	Severe Economic	Moderate Economic	Nondisadvantaged
Total Participants	2,273,177	225,264	267,673	92,174	320,909	682,241	684,916
% of Participants	100.0	9.9	11.8	4.1	14.1	30.0	30.1
% of All Children	35.5	3.5	4.2	1.4	5.0	10.7	10.7
% of All Children in Classification		6.7	8.6	3.6	10.2	27.2	43.7
Black	670,431	118,818	77,092	14,354	195,229	196,424	68,514
	100.0%	17.7%	11.5%	2.1%	29.1%	29.3%	10.2%
Spanish-surname and Other	198,537	28,968	36,745	5,025	29,642	69,163	28,994
	100.0%	14.6%	18.5%	2.5%	14.9%	34.8%	14.6%
White	1,404,209	77,478	153,836	72,795	96,038	416,654	587,408
	100.0%	5.5%	11.0%	5.2%	6 8%	29.7%	41.8%

---

[1] Data derived from USDHEW/OE Education of the Disadvantaged, April 1970.

children in grades two, four, and six enrolled in Title I elementary schools participated in one or more academic programs supported by Title I funds. Among the participants in special academic programs, approximately 70 percent were disadvantaged pupils and 30 percent were nondisadvantaged. Those figures suggest, and the third row of Table 6.15 indicates, that the disadvantaged students who participated in special Title I academic programs constituted about 24.8 percent of all pupils in Title I schools, while the fourth row indicates that 56.3 percent of all pupils in those schools were found to be disadvantaged. Apparently during FY 68 approximately one-half of all the disadvantaged children enrolled in Title I elementary schools participated in Title I programs while about one-fourth of the enrolled children that were not disadvantaged also participated in such programs.

Comparison of the second and fourth rows of Table 6.15 suggests that proportionately more students with each type of disadvantagement and proportionately fewer of the nondisadvantaged participated in academic programs for disadvantaged children than was the case for all children within those categories. Further, when the third and fourth rows of that table are compared, it becomes obvious that approximately half of all children in each classification participated in compensatory academic programs supported by Title I funds except for the children in the educational, moderate economic, and nondisadvantaged categories. Approximately 39 percent of the children in the educationally disadvantaged category, a similar percentage in the moderate economic category, and 24.5 percent of all nondisadvantaged children participated in one or more special academic programs supported by Title I funds. On the basis of those classifications and the percentages associated with them, it appears that far too few educationally disadvantaged children who have a critical need for academic programs, and too many economically and nondisadvantaged children who presumably do not need remedial academic programs participated in such Title I programs. Title I compensatory academic programs should have been concentrated on those children with the greatest need for such programs, the multiply and educationally disadvantaged (see Table 4.13 in the Context Chapter and Table 5.11 in the Needs Chapter). Apparently, as indicated by Table 6.15, that was not the case during FY 68.

The first column of Table 6.15 presents the overall distribution of ethnic group participation in Title I projects during FY 68. Approximately 10.5 percent (670,431) of the 6.5 million children enrolled in Title I elementary schools grades two, four, and six were Black participants in Title I academic programs, 3.1 percent (198,537) were participants from other minority groups, and 21.9 percent (1,404,209) were white students participating in such programs in FY 68. In terms of the proportion of participants in each ethnic group, 29.5 percent of all participants were Black, 8.7 were from other minority groups, and 61.8 percent were white. Comparison of those figures to the distribution of children from various ethnic groups in Title I elementary schools during FY 68 (Table 4.9, Context Chapter) indicates that Blacks and other minority group children were over-represented in Title I academic programs while white children were under-represented relative to the ethnic composition of the total Title I school population. Clearly, there was some concentration of compensatory academic programs on children within minority groups, the very groups with the greatest need.

The row percentages associated with ethnic group type in Table 6.15 suggest that while 30.1 percent of all participants were nondisadvantaged, most of the Blacks (89.7 percent) and other minority group participants (85.3 percent) were disadvantaged, but a high proportion of white participants (41.8 percent) were not disadvantaged. Apparently, academic programs were concentrated on some of the most needy children in the minority groups; however, concentration on the most needy whites was less than ideal.

The classifications of disadvantagement illustrated in Table 6.15 were developed, as mentioned earlier, on the basis of teacher estimates of their pupils' family income and educational prospects. By definition, then, the children with the greatest need for academic compensatory programs are the multiply and educationally disadvantaged. The distribution of participants within ethnic groups, however, indicates that only 31.3 percent of the Blacks, 35.6 percent of the other minority groups, and 21.7 percent of the white children were in those most needy categories and received one or more academic programs supported by Title I funds. On the basis of those figures, it can be concluded that during FY 68 there was a general failure to concentrate compensatory academic programs on children within various ethnic groups with the most critical educational needs.

The FY 69 Survey of Compensatory Education also provides some participation figures. They, however, were for compensatory program participation in Title I schools regardless of the project's funding source. Student participation in special academic programs during FY 69 is presented in Table 6.16. The percentages in the last column of Table 6.16 indicate that 74.1 percent of all children in grades two, four, and six in Title I elementary schools did not participate in any type of special academic program supported by Title I or other funds, while only 19.8 percent did participate in either special academic programs for the disadvantaged (17.6 percent) or in both disadvantaged and enrichment programs (2.2 percent). Apparently, the proportion of pupils in Title I elementary schools that participated in compensatory academic programs for the disadvantaged dropped substantially between FY 68 when 35 percent of all elementary students in grades two, four, and six in Title I schools participated in one or more Title I supported programs (Table 6.15), and FY 69 when only 17.6 percent participated in such programs supported by any funding source. However, the proportion of disadvantaged children that participated in academic programs during FY 69 increased from 70 percent in FY 68 to 74.4 percent in FY 69 (cf: Table 6.17). That fact suggests that although the absolute number of participants was apparently

TABLE 6.16

Pupils Classified by Ethnic Group and by Participation in Special Academic Programs Funded by Title I and/or other Sources. Percentages by Column except Bracketed Percentages which are by Row. Figures Projected from a Representative Sample of Title I Districts, FY 69.[1]

Pupil Participation in Special Program	Ethnic Group				
	Black	Spanish-sur. and Other	White	No Response	Totals
No Participation in Special Program	859,175 66.1	239,194 64.6	3,099,929 77.5	49,720 76.7	4,248,018 74.1
Participation in Disadvantaged Program	311,468 24.0	100,431 27.1	587,231 14.7	10,714 16.5	1,009,844 17.6
Participation in Enrichment Program	89,577 6.9	18,672 5.0	240,435 6.0	2,990 4.6	351,674 6.1
Participation in both Disadvantaged and Enrichment Programs	38,894 3.0	12,135 3.3	72,002 1.8	1,404 2.2	124,435 2.2
Totals	1,299,114 [22.6]	370,432 [6.5]	3,999,597 [69.8]	64,828 [1.1]	5,733,971

---

1. Data derived from Glass, 1970.

reduced during FY 69, more effort was made to concentrate academic programs on disadvantaged groups.

The percentage of all students in Title I elementary schools in grades two, four, and six during FY 69 that were Black participants in disadvantaged academic programs was 5.5 percent, 1.8 percent of all the children were other minority group participants, and approximately 10.3 percent were white participants. Those percentages are similar proportionately to FY 68 but they represent about one-half the rate of participation of FY 68 when they were 10.5 percent, 3.1 percent, and 21.9 percent respectively. In terms of the proportion of participants in disadvantaged compensatory programs by ethnic group, in FY 69, 30.8 percent of the participants were Black, 9.9 percent were from other minority groups, and 57.2 percent were white children. That distribution of participants by ethnic group is similar to that reported for FY 68. When those figures are compared to the distribution of children by ethnic group for the entire Title I elementary school grade two, four, and six population (Table 6.16, last row) there appears to have been an over representation of Black and other minority group children and an under representation of white children in compensatory academic programs. This finding is in accord with the greater need of minority group children. Although the distribution of participants by ethnic group was proportionately similar in FY 68 and FY 69 and during both years there was a concentration of compensatory academic programs on minority group children, during FY 69 only about half as many children participated in such programs.

Special compensatory academic programs, ideally, should be concentrated on disadvantaged children, and particularly on those disadvantaged children with the most critical need. As indicated in Table 6.17, that appears to have been the case in FY 69. Ignoring nonrespondents, approximately 74.4 percent of the elementary school children that participated in academic programs for the disadvantaged or disadvantaged and enrichment programs were classified as disadvantaged in FY 69. Also, comparison of the first three categories of disadvantaged, those with the most pressing educational needs, to the last two categories which represent children without severe educational needs shows that a higher proportion of the former participated in compensatory academic programs than the latter. As was mentioned above, that was clearly not the case in FY 68 when only approximately 39 percent of the educationally disadvantaged children participated in Title I-supported compensatory academic programs as compared to the similar percentage in the moderate economic and approximately 50 percent in the other categories of disadvantagement. It appears, then, that during FY 69 compensatory academic programs were concentrated on a smaller number of students, those students that were disadvantaged, and within the disadvantaged categories, those with the most critical need for compensatory academic programs.

During FY 68 participation in compensatory academic programs supported by Title I funds was related to school location. Data regarding that relationship were collected by the FY 68 Survey of Compensatory Education and are summarized in Table 6.18. The first column of that table points

TABLE 6.17

Pupils Classified by Type of Disadvantagement and by Participation in Special Academic Programs during FY 69, with Percentages by Rows. Data Projected from a Representative Sample of Title I Districts (Glass, 1970).

Type of Disadvantagement	Pupil Participation in Special Academic Programs				
	No Special Program	Disadvantaged Program	Enrichment Program	Both Disadvan. & Enrichment	Totals
Severe Multiple	184,836 58.2	114,755 36.1	11,009 3.5	7,176 2.3	317,776
Moderate Multiple	283,623 58.5	175,596 36.3	11,330 2.3	13,536 2.8	484,085
Educational	121,478 63.6	62,337 32.6	4,377 2.3	2,782 1.5	190,974
Severe Economic	281,479 64.8	98,537 22.7	40,487 9.3	13,955 3.2	434,458
Moderate Economic	1,205,788 74.2	280,015 17.2	96,421 5.9	43,648 2.7	1,625,872
Nondisadvantaged	2,003,174 81.4	240,574 9.8	178,868 7.3	38,304 1.6	2,460,920
No Response	167,642 76.2	38,031 17.3	9,181 4.2	5,034 2.3	219,888
Totals	4,248,020 74.1	1,009,845 17.6	351,673 6.1	124,435 2.2	5,733,973

TABLE 6.18

Pupils Classified by Type of Disadvantagement and by School Location, with Percentages by Row. Data Projected from a Representative Sample of Title I Districts, FY 68.[1]

School Location	Total	Classification of Disadvantagement Severe Multiple	Moderate Multiple	Educationally	Severe Economic	Moderate Economic	Nondisadvantaged
Total	2,337,328	232,646	275,696	93,708	339,339	699,025	696,915
%	100.0	10.0	11.8	4.0	14.5	29.9	29.8
% served	36.1						
Large city	243,234	23,901	30,826	6,997	41,911	95,916	43,684
(500,000 and over)	100.0	9.8	12.7	2.9	17.2	39.4	18.0
% in location served	43.6						
Middle-size city	340,316	33,921	46,264	13,359	48,577	113,236	84,958
(40,000 - 500,000)	100.0	10.0	13.6	3.9	14.3	33.3	24.9
% in location served	38.5						
Small city	681,088	66,265	95,640	28,947	71,788	192,197	226,251
(under 40,000)	100.0	9.7	14.1	4.3	10.5	28.2	33.2
% in location served	35.0						
Suburbs	202,108	7,003	18,998	16,024	11,983	44,421	103,678
	100.0	3.5	9.4	7.9	5.9	22.0	51.3
% in location served	20.1						
Rural areas	870,582	101,556	83,967	28,381	165,079	253,255	238,344
	100.0	11.7	9.6	3.3	19.0	29.1	27.4
% in location served	43.2						

---

1. Data derived from USDHEW/OE Education of the Disadvantaged, April 1970.

out that large city, middle size city, and rural areas provided academic programs for approximately 40 percent of all their students, while small city schools and suburban schools served 35 percent and 20.1 percent of their students respectively. Also, in terms of the number of nondisadvantaged students who participated in Title I academic programs, the last column of Table 6.18 indicates that those same small city and suburban schools served a higher proportion of nondisadvantaged students than did the other area schools. Apparently during FY 68, urban and rural areas served a higher proportion of their students and concentrated their compensatory academic programs on disadvantaged children more than did suburban areas.

The first row of Table 6.18 points out that, in general, the proportion of children served in each classification excluding nondisadvantaged children was larger than the proportion of all children within those classifications (cf: Table 4.13), as was suggested by Table 6.15. However, only approximately 25.8 percent of the children who participated in Title I academic programs during FY 68 had a critical need for compensatory academic programs. Similar comparisons within school locations suggest that schools in all areas failed to focus their academic programs on the children most in need of compensatory education programs, with suburban schools showing the greatest failure to concentrate resources on the educationally most needy.

The FY 69 Survey of Compensatory Education also reported data indicating that participation in compensatory academic programs was related to school location. Again, as during FY 68, a smaller proportion of children in suburban Title I elementary schools (16.0 percent) participated in compensatory academic programs than did students in urban (24.0 percent) or rural (18.4 percent) schools. It appears that during both FY 68 and 69, compensatory academic programs were concentrated on children in urban and rural areas, the same areas with the greatest need.

In summary, during FY 68, 35 percent of all children in grades two, four, and six enrolled in Title I elementary schools participated in one or more compensatory academic programs for disadvantaged children. Most of the participants in those programs were disadvantaged children (70 percent) and they represented approximately one-half of all the disadvantaged children in those schools. Although there appeared to be a concentration of academic programs on disadvantaged children, minority group children, and children in rural and urban schools, the participants within those categories were not those with the most critical educational need for academic programs. Although, during FY 68 there was an overall concentration of academic programs on those children with the greatest need, within disadvantagement categories there was a failure to allocate educational programs to the most educationally disadvantaged groups of children -- the multiply and educationally disadvantaged.

From FY 68 to FY 69, participation in compensatory academic programs dropped from 35 percent to 19.8 percent, while the proportion of disadvantaged children who were served increased from 70 percent to 74.4 percent.

During FY 69, there was a greater concentration of academic programs on disadvantaged children. Also, within disadvantaged types, compensatory academic programs were concentrated on those children with the most critical educational needs, unlike FY 68. Concentration of academic programs on minority group children and children from rural and urban schools was also evidenced during FY 69. However, evidence of concentration of academic programs on the most educationally needy within minority groups or in rural and urban schools was not presented in the FY 69 Survey of Compensatory Education report.

Intensity of Participation in Academic Programs. The extent of pupil participation in academic programs was reported by both the FY 68 and FY 69 Survey of Compensatory Education. During FY 68, 144 hours or more of remedial reading instruction was received by 30.8 percent, in arithmetic by 11.7 percent, in language by 12.2 percent, and in other academic areas by 21.5 percent of all Title I participants in grades two, four, and six. These statistics indicate that the majority of students who participated in such programs received less than four hours each week of compensatory instruction.

The last row of Table 6.19 indicates that during FY 69, only 12.5 percent of the students in grades two, four, and six in Title I elementary schools who participated in compensatory academic programs received 100 hours or more of compensatory instruction. Approximately 6.3 percent received 100 but less than 200 hours of instruction, and 6.2 percent received 200 hours or more of compensatory instruction. Apparently, 93.8 percent of all participants in compensatory academic programs received less than 200 hours of compensatory instruction during the school year, an amount equal to less than 5.5 hours each week.

Comparison of the first three categories of disadvantagement to the next three categories in Table 6.19 suggests that as the number of hours of participation increase, the proportion of nondisadvantaged children who participated decreases. Also, there appears to be some concentration of participation intensity on the most educationally needy at the 100 to 199 hour participation level -- multiple and educationally disadvantaged children. However, at the higher level of participation intensity, 200 hours or more, a higher proportion of severely economically disadvantaged children received that intensity of instruction than did the more educationally needy -- moderate multiple and educationally disadvantaged children.

The relationship of ethnic group membership to intensity of participation in academic programs during FY 69 is illustrated in Table 6.20. That table suggests that there was some concentration of participation intensity on minority groups. The proportion of participants in Black and other minority groups is greater than that for white children at all intensity levels greater than 100 hours. Clearly, there was some attempt during FY 69 to concentrate intensity of participation in compensatory academic programs on minority groups.

TABLE 6.19

Pupils Classified by Total Number of Hours of Participation in All Academic Programs for the Disadvantaged and by Type of Disadvantagement. Bracketed Percentages by Column, others by Row. Data Projected from a Representative Sample of Title I Districts, FY 69.[1]

Type of Disadvantagement	Total Number of Hours of Participation				
	0 - 99	100 - 199	200 or more	No Response	Totals
Severe Multiple	222,962 70.2	46,790 14.7	47,568 15.0	455 0.1	317,775 [5.5]
Moderate Multiple	371,184 76.7	65,515 13.5	47,233 9.8	153 0.0	484,085 [8.4]
Educational	156,896 82.2	20,451 10.7	13,535 7.1	93 0.0	190,975 [3.3]
Severe Economic	348,532 80.2	32,608 7.5	53,102 12.2	217 0.1	434,459 [7.6]
Moderate Economic	1,409,324 86.7	104,376 6.4	111,430 6.9	744 0.0	1,625,874 [28.4]
Nondisadvantaged	2,313,317 94.0	78,198 3.2	68,841 2.8	567 0.0	2,460,923 [42.9]
No Response	192,942 87.7	11,319 5.1	15,517 7.1	108 0.1	219,886 [3.8]
Totals	5,015,157 87.5	359,257 6.3	357,226 6.2	2,337 0.0	5,733,977

---

[1] Data derived from Glass, 1970.

TABLE 6.20

Pupils Classified by Ethnic Group and by Total Number of Hours of Participation in All Academic Programs for the Disadvantaged with Percents by Column. Data Projected from a Representative Sample of Title I Districts, FY 69.[1]

Hours of Participation	Ethnic Group				
	Black	Spanish-sur. and Other	White	No Response	Totals
0 - 99 hours	1,027,217 79.1	292,561 79.0	3,637,436 90.9	57,943 89.4	5,015,157 87.5
100 - 199 hours	112,676 8.7	39,195 10.6	204,636 5.1	2,749 4.2	359,256 6.3
200 - 299 hours	42,577 3.3	10,354 2.8	50,704 1.3	621 1.0	104,256 1.8
300 - 999 hours	115,556 8.9	27,966 7.5	105,958 2.7	3,490 5.4	252,970 4.4
No Response	1,090 0.1	356 0.1	866 0.0	25 0.0	2,337 0.0
Totals	1,299,116	370,432	3,999,600	64,828	5,733,976

1. Data derived from Glass, 1970.

During both FY 68 and 69, the majority of the children participating in academic programs for disadvantaged children in Title I elementary schools received less than one hour per day of compensatory academic instruction. Data also indicate that during FY 69 there was some attempt to concentrate the intensity of instruction on minority children, and those disadvantaged children with the greatest educational need. Nevertheless, the intensity of instruction and the attempt at concentration was at best inadequate to meet the needs of disadvantaged children as will be seen in the following chapter.

Academic and Supportive Program Participation and Specific Needs

Title I regulations permit the use of Title I funds for programs other than academic when the need for such programs cannot be met by other sources of funds. Typically, the ancillary programs provided by Title I funds include cultural enrichment, health, food, and pupil personnel services. Both the FY 68 and FY 69 Compensatory Education Surveys reported some information in regard to participation in those programs. The following paragraphs summarize those data and discuss the relationship of academic and supportive program participation to need.

As mentioned above, approximately 35.5 percent of all children in grades two, four, and six enrolled in Title I elementary schools during FY 68 participated in one or more academic programs supported by Title I funds. During that same year, 21 percent of all the enrolled children participated in ancillary cultural enrichment, pupil personnel, or compensatory health and nutritional programs according to the FY 68 Survey of Compensatory Education. The FY 69 survey reported that about 19.8 percent of the children enrolled in grades two, four, and six in Title I elementary schools participated in one or more compensatory academic or combination compensatory academic and enrichment program during that year, while nearly two-thirds of the total number in those grades participated in one or more ancillary programs.

Teacher estimates of various critical needs of students during FY 69 were discussed in the chapter on needs. It is instructive to compare those needs to the participation figures presented above. Data for such a comparison are provided in Table 6.21. Those data clearly indicate that the majority of children judged to have academic needs did not participate in any compensatory academic program, while more than five times as many children participated in health programs, and almost three times as many children participated in food programs as were judged by their teachers to need them. During FY 69, there was clearly over participation in many ancillary programs and considerable under participation in academic programs. A somewhat similar trend was reported for FY 66 through FY 68 on the basis of comparison of program participation during those years and the critical needs identified during FY 69 (see pages 120 and 123). Apparently there has been an over allocation of supportive services and an under allocation of academic services in Title I schools since program inception.

TABLE 6.21

Percent of Children in Grades Two, Four, and Six in Title I Elementary Schools with Critical Needs and the Percentage of Children who Participated in Various Programs, FY 69 (Glass, 1970).

Type of Program	Percent with Need[1]	Percent Participation[1]
Academic		19.8
Reading	43.0	-
Language	37.3	-
Mathematics	37.0	-
Ancillary		
Cultural Enrichment	27.0	31.0
Pupil Personnel	9.5	7.0
Health	11.1	58.0
Food	6.5	16.0

1. Percentages are nonadditive since many children had more than one need and/or participated in more than one type of program.

The relationship of estimated need for ancillary programs to participation in such programs was further explored by the FY 69 Survey of Compensatory Education. The results of that analysis are presented in Table 6.22. As indicated above, 6.5 percent of all the children (participants and nonparticipants) in grades two, four, and six within Title I elementary schools during FY 69 had a critical need for food services. Table 6.22 suggests, however, that only 68.3 percent of those children who had critical needs for food services received the needed services, while 12.3 percent of the students who had no such needs were served. Also, of the children who received food services, those who had no need for them outnumbered the children who had a need by over 2.5 to 1.

Table 6.21 indicated that approximately 11.0 percent of all the children in Title I elementary schools had a critical need for health services, while about 58.0 percent of all pupils in those schools participated in one or more health programs. As illustrated in Table 6.22, approximately 64.0 percent of children with a critical need for health services and 58.0 percent without such a need participated in compensatory health programs. Also, the number of participants without a need who participated was more than seven times the number with a need who participated. There is little evidence that efforts were made to allocate participation in health programs to pupils with the greatest need.

TABLE 6.22

Pupils Classified by Critical Needs for Ancillary Programs and Pupil Participation in those Programs, FY 69 (Glass, 1970).

Critical Needs	Pupil Participation			
	Yes	No	No Response	Total
Food				
Need	255,091	112,481	5,818	373,390
%	68.3	30.1	1.6	
No Need	659,316	4,646,770	54,500	5,360,586
%	12.3	86.7	1.0	
Health				
Need	403,241	181,684	48,978	633,903
%	63.6	28.7	7.7	
No Need	2,937,794	1,815,204	347,075	5,100,073
%	57.6	35.6	6.8	
Pupil Personnel				
Need	146,963	379,498	17,387	543,848
%	27.0	69.8	3.2	
No Need	230,116	4,755,077	204,935	5,190,128
%	4.4	91.6	4.0	
Special Education				
Need	48,459	247,374	11,192	307,025
%	15.8	80.6	3.6	
No Need	328,620	4,887,202	211,130	5,426,952
%	6.1	90.0	3.9	
Cultural Enrichment				
Need	623,030	807,208	116,505	1,546,743
%	40.3	52.2	7.5	
No Need	1,159,317	2,660,860	367,056	4,187,233
%	27.7	63.5	8.8	

In terms of pupil personnel, special education, and cultural enrichment services, Table 6.22 seems to indicate that there was a relationship between critical need and the proportion of students with such a need who participated. However, in all cases the proportion of students with a need that did not participate was greater than the proportion that had the need and participated. Also in each case, the number of children who participated without having a critical need was substantially greater than those with a need that participated.

Data on the relationship between the critical needs of students as perceived by their teachers and allocated compensatory services were reported in the first and last sections of this chapter. Those data indicated that while most of the children in Title I elementary schools who had critical needs for academic services during fiscal years 66 through 69 failed to receive such services, participation in health and food service programs exceeded the identified need for such programs. Further, while there appeared to be a failure to concentrate health services on the most needy during FY 69, there was some concentration on the most needy in relation to food, pupil personnel, special education, and cultural enrichment programs. However, during FY 69 all ancillary compensatory programs failed to serve a relatively high percentage of children with critical needs, and in all cases, the number of children served without critical needs exceeded those who were served who had pressing needs. Clearly, the resource allocation process, especially in terms of assignment of needy students to appropriate compensatory programs, is in need of revision.

CHAPTER 7: IMPACT OF ESEA TITLE I ON PARTICIPATING CHILDREN

Title I administrative structure, evaluation machinery, management performance, and operational context were discussed in earlier chapters as were national needs, Title I resource allocation, and their interrelationships. This, the final chapter dealing directly with the results of AIR's analysis of existing Title I evaluation data, focuses on the outputs of the compensatory process in terms of the impact of that process on participating children. Although earlier chapters were not concerned with impact, two conclusions reached in them have indirect bearing on the following evaluation of impact. First, as pointed out in the chapter on management performance, Title I has never been implemented in full compliance with enacting legislation and associated regulations. Second, in regard to the relationship between needs for compensatory service and resource allocation, all evidence suggests that Title I funds and services have been under allocated for remedial instruction, over allocated for supportive services, and misallocated to children teachers judged to be without critical needs for compensatory services. In essence, then, this chapter evaluates the impact of a program that was modeled after enacting legislation but implemented in violation of associated guidelines and one that has inappropriately allocated Title I funds and services. Clearly, then, the Title I administrative structure, not the legislation, should be held accountable for the failures in management and resource allocation that become even more evident when the impact of Title I on participating children is evaluated.

Impact is discussed in the following sections in terms of both cognitive (academic) and noncognitive (personal and social) benefits that can be wholly or, as is more commonly the case, only partially attributed to participation in Title I instructional and supportive activities. Noncognitive impact data are meager, especially in the areas such as health and nutritional services where practical criteria for output evaluation have not been agreed upon, and where it is conveniently assumed that receipt of such services is prima facie evidence of program success. In the area of cognitive benefits, criteria are available and data are more plentiful, but available data are not representative of the nation as a whole or any meaningful aggregate of states or local educational agencies (LEA's). The following discussion, then, reflects the criterion, data collection, and evaluation problems faced but not resolved by Title I impact evaluations since program inception.

All available data sources that have attempted to obtain representative impact data nationally, regionally, or statewide were reviewed for inclusion in this chapter. In addition to those sources, compensatory education projects that have been identified as "exemplary" and related reviews of those projects were analyzed in an attempt to determine the components of those projects that appeared to be directly related to their success. Finally, many of those same sources provided information relevant to the question of cost-effectiveness which is addressed in the final section of this chapter. The characteristics and limitations associated with the primary data sources used in this chapter, the fiscal year 68 and 69 Surveys of Compensatory Education and State Title I Annual Evaluation Reports, are discussed in Chapter 2. Those associated with other data sources are described in the following paragraphs, where appropriate.

Noncognitive Benefits

As mentioned above, criteria and data relevant to Title I impact evaluation in terms of health, nutritional, and school-related affective and social behavior benefits are meager. Those data that are available, however, appear to be representative of Title I districts, schools, and the children in grades two, four, and six within those schools. Their source is the FY 69 Survey of Compensatory Education which, as the reader will recall, obtained data on children that participated in compensatory education programs in Title I schools, regardless of their source of funding. The following evaluation of noncognitive benefits, then, does not exclusively deal with Title I impact; rather, it is an evaluation of the noncognitive impact of all compensatory programs conducted in Title I designated schools.

Supportive Service Impact

The implicit assumption in the provision of many supportive (non-academic) services such as pupil personnel, health, and food services is that the simple allocation of such services to children in Title I schools will result in noncognitive and perhaps cognitive benefits for those children. That assumption seems reasonable in light of the fact that practical criteria for evaluation of those services have not been generally agreed upon. The acceptance of the assumption does not, however, free school systems from the responsibility of insuring that supportive services be provided to those Title I eligible children with the most critical need. As suggested in the previous chapter, in point of fact, school systems have not lived up to that responsibility (see Tables 6.21 and 6.22).

From FY 66 through FY 69 between two and five times as many children participated in health services as teachers felt had a need for such services, and almost three times as many children participated in nutritional programs as needed them. Fewer children received pupil personnel services than needed them, while the converse was true with respect to cultural enrichment programs. Further, during FY 69, all supportive programs served a relatively high proportion of children without critical needs in those areas, and in every case, the number of children served without critical needs exceeded the number served with such needs (cf: Table 6.22).

Admittedly, the impact of cultural enrichment, pupil personnel, health, and food services on participating children is difficult to determine in terms of outputs because of the lack of practical criteria for evaluation. Nevertheless, even when only inputs are evaluated, particularly the relationship of inputs to need, it can be concluded that whatever benefits have resulted from those services were not always accrued by the most needy children. It might even be argued that benefits from such programs are proportional to needs and, consequently, that misallocation of resources has a doubly negative effect on program impact.

Personal and Social Development

At the national level very few data are available relating to personal and social development of participating children in Title I schools. Data that are available consist entirely of teacher ratings that were reported by the FY 69 Survey of Compensatory Education. Some similar data are available at the state, local, and project levels; however, they were found to be both nonrepresentative and of questionable reliability and validity. For those reasons, only the FY 69 survey data will be summarized here. Again, the reader is reminded that the data provided by the FY 69 survey were collected on participants and nonparticipants in compensatory programs in Title I schools regardless of the source of funding for those programs. Consequently, the following data intermingle the impact of Title I programs with other compensatory programs.

During FY 69, teachers rated personal and social development of participants and nonparticipants in academic compensatory programs conducted in a representative sample of Title I schools. In terms of personal development, the percentage of pupils showing improvement was four to five points higher for participants than for nonparticipants in the following areas: self-concept, accuracy of self-evaluation, educational aspirations, reduction of anxiety, liking of the teacher, attendance, and dress habits. The percentage of participants who showed improvement in completing assignments and care in handling property was about 10 points higher than for nonparticipants. No significant difference was reported between the two groups of students in improvement in creativity or in awareness of current events. Apparently, the only large differences were in the areas of completing assignments and care in handling property, both of which favored participants. The data also showed, however, that there was much more need for improvement among participants than among nonparticipants even after a year in the program.

In regard to improvements in social behavior, more participants improved than nonparticipants in all areas rated; namely, relationships with peers, relationships with adults, attentiveness, and disruptive behavior. It appears that more participants than nonparticipants in compensatory academic programs improved in their personal and social behavior. Also, the effect seems to be the stronger in the area of social than personal development, but in all cases, the percent showing improvement was only approximately 10 points greater among participants than nonparticipants. Clearly, more participants in compensatory academic programs have demonstrated some improvement in personal and social development than have nonparticipants; however, the differences between the two groups are quite small -- especially when considered in terms of the greater potential for improvement among participating children.

Teachers during FY 69 were also asked if they thought that providing programs for academically disadvantaged children was generally worthwhile. Approximately 90 percent of the teachers thought such programs worthwhile. About 67 percent of all teachers reported an unqualified yes to the question, 23 percent had some reservations, 5 percent were undecided, 1 percent said such programs were not worthwhile, and 4 percent did not respond to the question. Teachers in Title I schools appear to be somewhat enthusiastic about the provision of compensatory academic services for whatever their reasons.

Cognitive Benefits

Cognitive benefit information is available in the FY 68 and FY 69 Surveys of Compensatory Education, in State Title I Annual Evaluation Reports, and in many local project evaluation reports. Those sources provided standardized achievement test data and, in some cases, teacher ratings of student achievement. With the exception of teacher ratings of student achievement reported in the FY 69 survey, available data are not, unfortunately, representative of the achievement of children within Title I schools nationally. Despite the nonrepresentative nature of available standardized achievement test data, they are discussed along with the representative teacher ratings in the following paragraphs because they constitute the only relevant information available relating to cognitive achievement as measured by standardized tests. Obviously, those test data should not be considered definitive.

National Level Evaluations

Teacher Ratings. The only nationally representative data on student achievement currently available were collected by the FY 69 Survey of Compensatory Education. During that year teachers rated participants and nonparticipants in compensatory academic programs conducted within a representative sample of Title I elementary schools. Students in grades two, four, and six were rated in terms of reading proficiency, math proficiency, understanding of written instruction, oral instruction understanding, oral expression, and independence in learning. Table 7.1 summarizes the change in proficiency for participants and nonparticipants in academic remedial programs conducted within Title I schools regardless of their source of funding.

In the area of reading proficiency, 68.0 percent of the participants in compensatory academic programs were rated by their teachers as showing improvement compared to 58.5 percent for nonparticipants. In math proficiency the advantage was smaller with 58.2 percent of the participants as compared to 56.2 percent of the nonparticipants showing improvement. In the other four basic skill areas as well, a larger proportion of participants than nonparticipants were teacher-rated as showing improvement. It is also interesting to note that more participants were described as having made no change but needing change while the opposite relationship was found for the "no change but change not needed" response category.

TABLE 7.1

Teachers' Ratings of Compensatory Academic Program Participants and Nonparticipants in Six Areas of Academic Proficiency, FY 69[1]

	Type of Change in Pupils' Proficiency					
	Some for Worse %	None but Desirable %	None but not Needed %	Some for Better %	Large for Better %	No Response %
Reading						
Participants	2.0	22.0	5.1	58.6	9.4	2.9
Nonparticipants	1.3	15.6	21.5	49.0	9.5	3.1
Math						
Participants	2.5	25.2	7.2	49.9	8.3	6.9
Nonparticipants	2.1	18.0	20.1	47.2	9.0	3.6
Understanding Written Instructions						
Participants	1.5	31.2	13.8	44.9	5.5	3.1
Nonparticipants	1.1	18.0	34.5	37.6	6.6	2.2
Understanding Oral Instructions						
Participants	1.4	24.1	17.4	48.7	6.0	2.4
Nonparticipants	1.1	15.6	38.2	37.0	6.0	2.2
Oral Expression						
Participants	1.1	27.8	12.4	48.9	6.5	3.3
Nonparticipants	0.9	20.6	26.2	43.2	6.6	2.5
Independent Learning						
Participants	2.2	36.2	10.0	40.8	7.1	3.7
Nonparticipants	11.4	22.3	26.1	37.8	9.2	3.3

1. Glass, 1970

Those differences are consistent across all six proficiency areas and are the largest differences between participants and nonparticipants. Apparently, teachers feel that participation in one or more compensatory academic programs contributes to improvement in many skill areas; however, between 22 and 36 percent of program participants were rated by their teachers as needing but not obtaining benefits from such programs.

Achievement Test Results. As already noted, prior to FY 68, USOE Annual Title I Reports to Congress provided impact information based upon State Title I Annual Evaluation Reports and several contracted studies, none of which provided data representative of Title I students nationally. To improve that situation, the FY 68 and FY 69 Surveys of Compensatory Education were conducted in the hope of obtaining nationally representative data upon which Title I's impact on participating children could be judged. Both of these surveys failed to obtain the desired representative data; nevertheless, they are discussed in the following paragraphs because of the fact that their data represent the only achievement test data available on large groups of Title I students.

Both the FY 68 and 69 surveys requested from a representative sample of Title I schools available pre-program and post-program achievement test data for children in grades two, four, and six. The FY 68 survey managed to obtain the desired data on approximately 29 percent of all students in their sample. However, when requirements for parallel pre- and posttest forms on the same battery, pretest administration early in the school year, and at least 500 such sets of data at each grade level nationally were imposed, the pool of data was reduced to only 9 percent of the total sample and was restricted to reading achievement data. The tests that provided usable data and the number of students in the resulting sample by test are summarized in Table 7.2. It was concluded that the data over represented large urban districts and were clearly not representative nationally.

Despite their deficiencies, the reading achievement data collected by the FY 68 survey were analyzed but presented only in narrative form in the survey's report. Participants were found to have lower pretest scores than nonparticipants which suggests that participants were selected for remedial reading programs on the basis of their critical need. Neither group demonstrated any improvement in their rate of reading progress and participants' rate of progress was such that they were farther behind nonparticipants at the end of the year than at the beginning. Also, no relation was found between hours of remedial reading participation and amount of gain. Finally, grade-equivalent scores of many of the participants and nonparticipants were below national norms and the difference between posttest reading achievement and national norms increased at each succeeding grade level.

Further analysis of FY 68 reading gain scores suggested that there was a relationship between student background characteristics and achievement. Less socially disadvantaged children made larger reading gains than did their more disadvantaged peers. High reading achievement gains

TABLE 7.2

Analyzable Standardized Reading Achievement Test
Data for Assessing National-level Impact

Grade Level	Test	Number of Pupils FY 68	FY 69
2	Metropolitan Achievement Test	620	1,113
	Stanford Achievement Test	-	1,092
4	Metropolitan Achievement Test	3,940	1,621
	Iowa Tests of Basic Skills	1,310	1,064
6	Metropolitan Achievement Test	2,520	1,047
	Iowa Tests of Basic Skills	1,340	1,085
	Stanford Achievement Test	1,120	762
	California Achievement Test	640	-
Totals		11,490	7,784

were associated with non-minority group membership and with higher family income, education, and occupational status. Higher gains were also associated with attendance in schools with low concentrations of economically disadvantaged children. All of the above conclusions were made in the FY 68 survey report in narrative form and no supporting data were presented to substantiate those conclusions. Also, the findings apply only to the nonrepresentative sample of students on whom completed achievement test data were available.

FY 69 Survey of Compensatory Education data were analyzed and reported by Glass (1970). Achievement test reading-discrepancy and residual-gain scores were computed for 7,784 pupils comprising 7.5 percent of the clearly nonrepresentative sample. This percentage of analyzable data was about 1.5 percent less than was available for the FY 68 analyses; and, as in FY 68, large urban districts were over represented. The FY 69 criteria for declaring data to be analyzable were similar to those used in FY 68. Table 7.2 lists the tests which provided usable data and the number of students that had pre- and posttest scores on each test.

Each pupil's test score in grade-equivalent units was subtracted from his grade level at the time he took the test. That procedure yielded what was called a discrepancy score for both pretest and posttest. Discrepancy score data were analyzed separately by grade level and test for participants and nonparticipants. The percentages of pupils below grade level on pretest and posttest are shown in Table 7.3. It should be noted that unlike the FY 68 data the participant category in Table 7.3 includes students that received compensatory education programs supported by funds other than Title I.

TABLE 7.3

Percentages of Participants and Nonparticipants Scoring below Grade Level on Reading Pretests and Posttests[1]

Grade	Status	N	% Below on Pretest	% Below on Posttest	Difference
2	Participant	486	78.6	78.8	0.2
	Nonparticipant	1,719	47.3	45.0	- 2.3
4	Participant	593	86.3	89.9	3.6
	Nonparticipant	2,089	58.2	65.4	7.2
6	Participant	443	90.1	91.0	0.9
	Nonparticipant	2,438	64.4	64.3	- 0.1

1. Glass, 1970.

Table 7.3 suggests that a high proportion of participants and nonparticipants in remedial reading programs within Title I schools were reading below grade level with the percentage below grade level increasing at each succeeding grade level on both pre- and posttests. Those data also indicate that a higher proportion of students selected for participation in remedial reading programs were below grade level in reading than were nonparticipants. Finally, neither participants nor nonparticipants appeared to improve significantly in reading achievement during the academic year, and no relationship was found between hours of participation and gain. Each of those conclusions is in accordance with those reached on the basis of the similarly nonrepresentative FY 68 data described earlier.

Analyses were also performed on data collected in the FY 69 survey using residual gain scores. Residual gain scores were obtained by subtracting actual posttest scores from predicted posttest scores. Thus residual gain scores were defined as deviations from the regression line of predicted scores where pretest and time interval between pre- and posttest dates were predictors.

Table 7.4 presents the analyses of gain scores of nonparticipants, participants in one program, and participants in more than one special reading program for disadvantaged pupils. Results are presented separately for each grade level and each achievement test. In this subsample, nonparticipants made larger gains than participants; in fact, both participant groups tended to lose ground while nonparticipants gained ground.

TABLE 7.4

Average Reading Residual Gain Scores in Months for Participants and Nonparticipants in Academic Compensatory Programs[1]

Grade	Test[2]	Nonparticipants		Partic. in one program		Partic. in two or more programs	
		N	Gain	N	Gain	N	Gain
2	MAT	916	0.47	155	- 2.03	42	- 2.68
	SAT	803	0.72	227	- 2.34	62	- 0.73
4	MAT	1,245	0.40	318	- 1.51	58	- 0.20
	ITBS	826	0.46	178	- 1.09	32	- 5.66
6	MAT	885	0.29	141	- 1.61	21	- 1.46
	ITBS	920	0.43	151	- 2.08	14	- 5.80
	SAT	645	0.12	104	- 0.60	13	- 1.15

1. Glass, 1970.
2. MAT = Metropolitan Achievement Test
   SAT = Stanford Achievement Test
   ITBS = Iowa Tests of Basic Skills

The relationships between residual gain scores and 14 biographical variables were examined, but contrary to the FY 68 survey, nothing significant was found. That is, there was no evidence that students with particular background characteristics gained more or less as a result of participation in compensatory reading programs.

In summary, the two largest efforts to obtain nationally representative impact data on children in Title I elementary schools failed. Usable pre- and posttest reading achievement data were obtained for only 9 percent of the entire sample of children in grades two, four, and six in Title I schools during FY 68 and 7.5 percent in FY 69. Those data, though not representative nationally, suggest that children in those grades with the greatest reading deficits were selected for remedial reading programs. However, participants gained less during the period between pre- and posttests than did nonparticipants and consequently fell further behind their nonparticipating peers and national norms. Also, the intensity of remedial reading instruction, in terms of the number of remedial programs received, seemed to have little effect on participants' reading gains. In short, there is no evidence, nationally, that compensatory reading programs, whether Title I supported or not, provide any benefits for participating children in Title I schools.

State-level Evaluation

The 46 FY 69 and 45 FY 70 State Title I Annual Evaluation Reports available for review were analyzed for data relating to the educational outcomes associated with participation in state Title I programs. A total of 8 state reports failed to report any "hard" cognitive achievement data whatsoever. In terms of the AIR state report rating scale (cf: Chapter 1), 36 of the reports were judged to provide cognitive data on samples of students which fell somewhere between certainly and probably biased. The samples of students on whom data were collected in another 23 reports were judged to range between probably to possibly biased, and only 24 (26 percent) of the state reports met the minimum requirements of this study with respect to representativeness of their cognitive achievement test data; i.e., their samples were judged to range from possibly biased to representative. Twenty of those reports had samples that ranged from possibly biased to probably representative and only four were considered to be probably representative or better. Table 7.5 lists the state reports judged to fall into each category of sample representativeness as defined by the AIR rating scale described in Chapter 1 and Appendix A.

Sampling considerations, unfortunately, were not the only factors limiting the usefulness of reported cognitive data. Variations in experimental design, types of scores reported, and analytical unit (e.g., grade level, project, regular/summer) not only made the pooling of information across states difficult or impossible but, in some cases, actually precluded any meaningful interpretation of the data presented. Table 7.6 summarizes the characteristics of the cognitive achievement data contained in the 24 reports judged to meet minimum sampling quality requirements.

Only 7 of the 24 reports that reported data on samples of students judged to be possibly biased or better could be combined in any meaningful way. While not all 7 of the reports adopted a common format, it was possible to compute a common set of measures from the data they presented. Grade equivalent pretest, posttest, and gain scores for those 7 states are reported in Table 7.7.

TABLE 7.5

Adequacy of Cognitive Benefit Evaluation Sample as Determined by the AIR Rating Scale

No Cognitive Benefit Data	Certainly to Probably Biased	Probably to Possibly Biased	Possibly Biased to Representative
Delaware 69	Alabama 69	Arizona 69	Arkansas 69
Georgia 69	Alabama 70	Florida 69	Arkansas 70
Illinois 69	Alaska 69	Florida 70	California 69
Montana 69	Alaska 70	Hawaii 70	California 70
Montana 70	Arizona 70	Indiana 69	Colorado 69
Texas 70	Colorado 70	Iowa 69	Connecticut 69
Washington 69	Dist. of Col. 70	Iowa 70	Connecticut 70
Washington 70	Guam 70	Kansas 69	Guam 69
	Idaho 69	Kansas 70	Hawaii 69
	Idaho 70	Maryland 70	Indiana 70
	Maine 69	Massachusetts 70	Louisiana 69
	Maine 70	Michigan 69	Louisiana 70
	Massachusetts 69	Mississippi 69	Minnesota 69
	Michigan 70	Missouri 69	Nevada 69
	Mississippi 70	Missouri 70	New Jersey 70
	Nebraska 70	Nebraska 69	North Dakota 69
	Nevada 70	No. Carolina 69	Ohio 69
	New Jersey 69	No. Carolina 70	Ohio 70
	New Mexico 69	Oklahoma 69	Oregon 69
	New Mexico 70	Tennessee 69	Oregon 70
	North Dakota 70	Utah 69	Puerto Rico 70
	Pennsylvania 69	Utah 70	Rhode Island 69
	Pennsylvania 70	Wyoming 69	Rhode Island 70
	So. Carolina 69		Wyoming 70
	So. Carolina 70		
	South Dakota 69		
	South Dakota 70		
	Tennessee 70		
	Vermont 69		
	Vermont 70		
	Virginia 69		
	Virginia 70		
	W. Virginia 69		
	W. Virginia 70		
	Wisconsin 69		
	Wisconsin 70		

TABLE 7.6

Characteristics of Cognitive Benefit Data Reported by States with Adequate Evaluation Samples

State or Territory	Design		Type of Data Presentation				Breakdowns Reported			Sample	
	Pre-Post	Post Only	Raw or T Score	Grade Equiv-alent	Decile, Quartile Distrib.	Gain Group	Grade	Reg/Sum	Other	N	% of Popu.
Arkansas 69		✓				✓	1 - 6			41,184	27.5
Arkansas 70		✓				✓	elem/sec			6,050	3.9
California 69	✓					✓			project	194,700	77.5
California 70	✓					✓	1 - 12			185,431**	82.9
Colorado 69	✓		✓		✓				project	39,813**	74.6
Connecticut 69	✓			✓			1 - 12		city size/proj.	5,869	17.5
Connecticut 70	✓			some	some		1 - 12		city size/proj.	10,611	25.6
Hawaii 69	✓		✓				1 - 12			2,884	32.4
Indiana 70	some	some	some	some	some		2 - 8		region	18,870	15.2
Louisiana 69	✓	some	some	some	✓		1 - 12		LEA	77,278	33.9
Louisiana 70	✓				✓		2 - 11			166,006**	100.0
Minnesota 69	✓					✓		✓	program	12,237	22.0
Nevada 69	✓		some	some	some		some		project/LEA	1,903	97.2
New Jersey 70	✓			✓			2, 4, 6		project	12,633	16.1
North Dakota 69	✓			✓			1 - 9		various	1,243	1.9
Ohio 69	✓					✓	4 ranges	✓		121,369*	73.5
Ohio 70	✓					✓	5 groups	✓		148,883*	93.5
Oregon 69	✓				✓			✓		19,496	60.0
Oregon 70	✓				✓			✓		6,433*	18.7
Rhode Island 69	✓			✓			1 - 12		IQ	3,788	22.7
Rhode Island 70	✓			✓			1 - 12		IQ	3,196	13.0
Wyoming 70	✓			✓			3 - 8			2,217	13.6
—											
Guam 69	some	some	some	some	some	some	1 - 12	some	school	10,584**	100.0
Puerto Rico 70	✓	some	✓		some		4,6,7,10		urb-rur/LEA	33,791**	5.0

* Count known tc be duplicated by Regular-Summer
** Count known to be duplicated by Program

While the data summarized in Table 7.7 are the best data presented in FY 69 and FY 70 State Title I Annual Evaluation Reports, they suffer from several inadequacies. First, as mentioned above, they are only possibly representative of the states reporting them. Second, in most cases they are the result of pooling across various types of programs and types of tests within and across subject matter. Often it was not clear whether the same test was used prior to the program and after completion of the treatment, let alone whether appropriate and alternate forms were used for the two testings. State reports simply do not provide the kind of detailed information that is necessary to adequately evaluate the data they present.

Although data in Table 7.7 suffer from all those and other deficiencies, they do provide the first indication in this chapter of some positive impact on participating children. When the average monthly gain (AMG) across states is considered, it becomes obvious that at each grade level those gains are approximately equal to the month-for-month gain generally observed of average children. Clearly such gains arrest the general trend of disadvantaged children to fall farther and farther behind their more advantaged peers in achievement. However, they are not large enough to bring disadvantaged children to grade level no matter how long they continue. For disadvantaged children who typically achieve at an average monthly gain less than one month during a month to reach grade level, they must achieve at better than a month-for-month rate for a period of time determined by their initial achievement level and their new rate of achievement gain. The closer they are to grade level and the higher their new rate of gain above a month-for-month, the shorter will be the required period (cf: Wargo, Campeau, & Tallmadge, 1971).

The mean pretest and posttest grade-equivalent scores reported in Table 7.7 indicate that at each successive grade level the children in those states were farther behind their more advantaged peers. In terms of posttest scores in grade two, the average grade equivalent across states is seven months behind grade level, at grade four it is a full year and four months behind, and at the sixth grade level it is one year, seven months behind grade placement. Clearly, if growth could be maintained at the approximately month-for-month rate shown in Table 7.7, this progressive decrement according to grade level would ultimately disappear although the children would never catch up to the national norms.

In addition to reporting pooled data across local educational agency projects, several states adopted the practice of including information about a few "exemplary" projects. State reports that did provide such information were reviewed in an attempt to identify those that provided enough data so that average monthly achievement gains could be determined. Only five states reported sufficient data so that it was possible to determine what gains specific projects had produced. All projects that were specifically identified in terms of subject matter content were found to be remedial reading projects.

TABLE 7.7

Grade-equivalent and Gain Score Data Summarized across States with Adequate Evaluation Samples

State	Grade	N	Pre	Post	Gain	AMG[1]
Connecticut 69	2	598	1.72	2.51	.79	1.00
	4	858	2.79	3.60	.81	.91
	6	580	4.22	5.14	.92	.96
Connecticut 70	2	1,524	1.57	2.34	.77	.91
	4	1,280	2.81	3.61	.80	1.00
	6	622	4.38	5.41	1.03	1.26
Guam 69	2	64	2.08	2.52	.44	.91
	4	323	3.24	3.94	.70	1.03
	6	290	4.16	4.97	.81	1.30
Hawaii 69	2	330	1.40	1.55	.15	.25
	4	200	2.35	2.80	.45	.75
	6	152	3.45	3.90	.45	.75
North Dakota 69[2]	2	110	1.73	2.66	.93	1.13
	4	235	3.18	4.15	.97	1.10
	6	190	4.76	5.66	.90	1.07
Rhode Island 69	2	803	1.61	2.21	.60	.80
	4	458	2.75	3.58	.83	.90
	6	319	4.55	5.33	.78	.90
Rhode Island 70	2	856	1.60	2.30	.70	1.10
	4	364	2.60	3.60	1.00	1.30
	6	204	5.00	6.10	1.10	1.60
Total Sample	2	4,285	1.60	2.28		.89
	4	3,718	2.81	3.62		.99
	6	2,357	4.36	5.26		1.12

1. Average Monthly Gain
2. Gain figures for North Dakota were calculated from pretest, posttest, and months-between-testing statistics presented. They do not agree with the average monthly gains presented in the North Dakota report.

While the criteria for exemplary project status were found to vary from state to state, a total of 55 projects were identified which produced gains equal to or greater than month-for-month. Arkansas' FY 69 report identified one such project that served 530 pupils in grades two through six in several different schools. California's FY 69 report identified 9, Connecticut reported 8 in FY 69 and 14 in FY 70, Rhode Island had 10 in FY 69 and 12 in FY 70, and the Wisconsin FY 69 report identified 1 project which produced average monthly gains greater than one.

In summary, of the 91 State Title I Annual Evaluation Reports reviewed for FY 69 and FY 70 only 24 reports provided achievement test data that were possibly representative of their state, and only 7 of those reports provided data that could be combined in any meaningful way. The mean average monthly gain across those states at grades two, four, and six was approximately a month-for-month, a gain sufficient to arrest achievement retardation but not large enough, even if prolonged, to bring those children to grade level. Also from those 91 state reports, 5 states were identified that reported data on a total of 55 projects that produced grade-equivalent gains greater than month-for-month. Clearly, as the unit of analysis was narrowed from the nation as a whole to states and then to projects within states, more signs of positive impact on participating children could be identified. The following sections will further narrow the unit of analysis to specific compensatory education projects, regardless of their source of funding or where their results have been reported.

Project-level Evaluations

During the period from March 1968 through July 1971, the American Institutes for Research conducted three studies concerned with identifying and describing successful projects for educating disadvantaged children (Hawkridge, Chalupsky, & Roberts, 1968a; Hawkridge, Campeau, DeWitt, & Trickett, 1969; Wargo, Campeau, & Tallmadge, 1971). In all, 41 projects conducted between 1963 and 1971 were identified that produced reliably measured cognitive benefits.

Some methodological improvement occurred during the series of studies and the criteria for success became increasingly more stringent. Each of the studies, however, followed the same basic approach. Candidate programs were initially identified through literature searches of the Educational Resources Information Center (ERIC) system and other relevant sources. Through a succession of increasingly detailed analyses, the initially identified programs were reduced to a small number which appeared, on the basis of standardized test data, to have produced both statistically and educationally significant cognitive benefits. Programs meeting those criteria were site-visited to verify the adequacy of evaluation data and to gather additional descriptive information.

Well over 3,000 documents were reviewed by AIR during the initial screenings of the three studies. From those documents, some 1,750 candidate projects were identified -- each "appearing" to meet the established criteria for success. The candidate projects were then contacted by mail and/or telephone to secure any additional information which was available. Through analysis of that additional information, the number of projects selected to be visited was substantially reduced. Only 124 were actually visited, and only 41 (2.3 percent) were found to be successful. Of the 97.7 percent not designated as successful, many may have achieved their objectives in noncognitive areas or may have been successful in reducing retardation. Other projects may have enjoyed even greater degrees of success but simply lacked adequate cognitive evaluations or documentation thereof. For the purposes of the three studies, however, all such programs were eliminated from further consideration.

Detailed descriptions were prepared for each of the 41 successful projects. Each description consisted of an introductory overview followed by a comprehensive discussion of the program's context, objectives, history, personnel, methodology, evaluation, and budget. Those project descriptions appear in the three final reports cited earlier. The most recent report in the series (Wargo et al., 1971) contains not only the descriptions of the 10 most recently identified projects but also brief profiles of each of the 31 previously identified successes including information on their current status. The reader is therefore referred to that report for the most up-to-date information on all 41 identified successes.

Although the latest report in the AIR series provided detailed descriptions of all the 41 successful programs, the characteristics of those programs have never been summarized in one document. In an attempt to identify those program characteristics that are associated with success, the 41 successful programs were reviewed and their characteristics were summarized in terms of funding source, context, target group characteristics, facilities, objectives, treatment components, and evaluation design. The main products of the within-project analysis were the project descriptions that appear in Appendix B. The results of an across-project analysis are summarized below. It should be pointed out that the analysis described below was based upon the data available when each project was initially identified as successful. Since new data collection efforts were not conducted, new information that may be available is not reflected in the following. Furthermore, the summarized information was drawn entirely from the AIR descriptions, not from the original source documents.

Funding. In terms of financial support, 20 of the 41 successful projects identified since 1963 used Title I funds to defray all or part of their costs. Twenty successes reported no receipt of Title I funds at the time they were evaluated, and 1 project could not specifically identify its primary source of funding. Most of the successes that were not in some way supported by Title I funds were either ineligible early childhood projects or projects conducted prior to the enactment of Title I in 1965. It is likely that some of those projects have received Title I funds since their review by AIR, especially those identified in the two early studies in the series. Regardless of their funding source, each of the 41 programs significantly improved the cognitive functioning of disadvantaged children and, as such, they are useful as models for Title I eligible school systems seeking to improve the provision of services to disadvantaged children.

Program Location. Thirty-seven of the successful projects identified by AIR served children from urban areas and the remaining 4 served suburban populations. The 41 projects represented 26 different cities in 12 states and the District of Columbia. The city and state of New York were most heavily represented with 7 and 12 projects respectively. Illinois and California were each represented by 6 projects. The fact that no rural projects are included in the 41 successes probably has more to do with project evaluation than project effectiveness. Many rural school systems apparently lack the capabilities necessary for conducting sound evaluations and/or publishing their findings.

Grade Level. The number of students served by any one successful project in a single year ranged from 15 in a preschool project to 30,000 in an elementary school system. The 41 successful projects represented all grade levels from preschool through grade twelve. Eleven projects served only preschool children, three others served only one grade, and the remainder served more than one grade level. As with Title I projects nationally, most of the successes served children in the early elementary grades or preschool, with the number of projects decreasing at successive grade levels.

Ethnic Participation. From the standpoint of ethnic composition, Blacks represented over 50 percent of the student population in 21 of the 41 projects, while children of Spanish surname were similarly represented in 9 of the projects. Three projects reported that 50 percent or more of the students served were Black or Spanish-surnamed; 1 reported serving predominantly white Appalachians, and another a mixed population of Puerto Ricans, Cubans, and Greeks. Nine projects failed to report the ethnic composition of the population served but most of those indicated that school or community populations included large percentages of Blacks, Puerto Ricans, or Mexican-Americans. None of the projects attempted to relate ethnic composition of the population served to school, community, or district characteristics.

Needs Assessment. A total of 28 different projects made some attempt to assess the needs of those served and designed their projects accordingly. Sixteen of those projects reported that all students were one or more years retarded in reading, language, or mathematics. In most cases, degree of retardation was determined through the use of diagnostic tests; in a few instances, teachers' judgments of classroom performance were used in lieu of tests. Four other projects indicated that those served had scored "low" on diagnostic tests in oral language or reading, but did not define "low" in terms of grade level. With regard to mental ability, 5 projects reported the mean IQ scores or range of scores for those served -- no students scored above 100 and the means were equal to or less than 85. Another 6 projects indicated that those participating were of "average" IQ but reading below grade level, unble to speak English well, or judged to be potential dropouts.

Objectives. Each of the 41 projects stated or implied having cognitive objectives that were directly related to improvement in student IQ or achievement. Thirteen were concerned with raising IQ scores; 36 with developing or improving language and/or reading skills; 1 with improving writing ability; and 15 with developing or improving basic skills in mathematics. Several projects had a combination of objectives. While objectives, per se, were not discussed in much detail in the federal and state level Title I documents reviewed, it can be assumed that Title I projects in general had similar cognitive objectives.

Upon further examination of the cognitive objectives, it was found that 16 projects were developmental in nature and 25 were remedial. Those which were developmental served preschool, kindergarten, or first grade children or pupils in projects teaching English as a second language (ESL); the remainder served students in grades two through twelve. No comparable information could be found in the documents reporting information on Title I activities.

Evaluation Instruments. Many different standardized tests were administered by the 41 projects to determine whether or not there had been any significant improvement in the students' cognitive development. Nineteen different instruments were used to assess reading/language achievement; this count includes the various subtests of larger batteries. The number of different tests used to measure IQ, readiness, math achievement, and general achievement were 14, 4, 5, and 5 respectively. The majority of the projects administered more than one test, and results were usually reported separately by test, year, and grade. As would be expected, the preschool projects made heaviest use of the IQ/ability and readiness tests; those serving the elementary grades primarily used reading tests; and projects at the secondary level usually employed complete test batteries. Twenty-seven different projects administered reading/language tests; 18 employed IQ/ability tests; and far fewer used the other types of instruments.

The California and Metropolitan Achievement Tests were used most frequently to measure reading and language facility. The two instruments employed by most projects to measure IQ/ability were the Stanford-Binet and Peabody Picture Vocabulary Test (PPVT). It is interesting that none of the state Title I reports for either FY 69 or FY 70 reported use of the Stanford-Binet, while use of the PPVT was common. In addition, although the Gates-MacGinitie Reading Achievement Test was used most frequently by state-reported Title I projects to measure reading achievement, only 2 of the AIR-identified projects employed this instrument. The preschool projects measuring school readiness preferred the Metropolitan Readiness Test, as did those state-reported Title I projects assessing competencies in that area. While the AIR-identified projects favored use of the California Achievement Test for measuring ability in mathematics, state-reported Title I projects used the Stanford Achievement Test and the Iowa Tests of Basic Skills about as frequently as the California test. The differences in test use by the AIR-identified projects and those reported by states may reflect the fact that the state-reported projects were more recent than approximately 31 of the 41 identified successes.

Evaluation Model. Of the 18 projects that administered IQ tests, 14 used a pre-post design with controls, and all but one reported scores in terms of IQ gains. Of the total administering achievement and readiness tests, over three-fourths used a pre-post design comparing results with norms. A small number of those also compared results with controls. The remaining projects used a post-only-with-controls design. Scores on achievement and readiness tests were generally reported in grade equivalents but a few projects reported raw scores or percentile ranks. All 41 projects reported treatment gains and/or differences that were statistically significant. Seventeen reported grade-equivalent gains equal to or greater than month-for-month. The evaluation designs, results, and reporting style for the AIR-identified successes were, in general, substantially superior to those found in State Title I Annual Evaluation Reports.

The major conclusion which can be drawn from the preceding discussion is that the AIR-identified compensatory education projects, although not all funded by Title I, were similar in all policy-relevant respects to Title I projects in general; however, they were all successful. Because they were all successful in producing reliably measured cognitive benefits while only a very small proportion of Title I projects reported by states were similarly effective, their characteristics are further analyzed below in the hope of finding useful guidelines for achieving success.

Components of Success

The nature of successful compensatory education projects has been the subject of study by various investigators since before the inception of Title I in 1965. The earliest comprehensive study was by Gordon and Wilkerson (1966) who reported a national evaluation of preschool through the post-secondary-level compensatory education projects. Programs were identified by means of inquiries sent to the chief education officers in 50 states, to all educational agencies within cities with populations of more than 50,000, and to each person or project identified through an extensive review of the literature. A compendium of projects was completed and a somewhat subjective methodology was used to identify "ideas and practices which show promise."

In 1968, shortly after completing its first search for successful compensatory education programs, AIR was asked by the National Advisory Council on the Education of Disadvantaged Children to conduct a study to identify program components associated with success. This task was undertaken by means of analytical comparisons of each of 18 successful programs with either 1 or 2 similar but unsuccessful programs (Hawkridge, Tallmadge, & Larsen, 1968b). As a result of that comparative analysis, several "components" associated with successful but not matched unsuccessful projects were identified at each of three grade levels.

Later the same year, Posner (1968) reported an analysis of a small number of "successful" compensatory projects. He also attempted to identify elements that were associated with successful programs. His method consisted of a review of descriptive and evaluative information relating to 15 programs that he considered "successful." On the basis of his analysis he identified several project components that he concluded were most closely associated with those 15 programs.

In 1969, McDill, McDill, and Sprehe reported another study that attempted to identify those elusive components of successful programs. Their study included an analysis of federally supported programs as well as local-level projects. In addition to evaluating the effectiveness of those programs and projects, they devoted a chapter of their report to a discussion of components associated with successful programs that relied heavily on the AIR components study (Hawkridge et al., 1968b) and the study discussed above by Posner (1968).

In 1970, Bissell reported a study that focused on successful preschool programs. She reanalyzed the results reported by three earlier studies of preschool programs (DiLorenzo, 1969; Karnes, 1969; Weikart, 1969) in an attempt to determine the average effects of those programs across groups of participating children and the differential effects of those programs on various types of children. On the basis of her analysis, she suggested several project elements that appeared to be associated with success.

Gordon again reviewed the compensatory education literature during 1971, this time in association with Kourtrelakos (1971). They attempted to determine the relationship between compensatory education project input and output variables. Although an extensive analysis was completed, it proved to be of little value in identifying critical variables and their relationship to success. Nevertheless, on the basis of more subjective analysis, the authors reported what they felt were some of the components of successful projects.

Although each of the six studies described above was subjective in its analysis, the AIR study (Hawkridge et al., 1968b) was apparently least so, due to its use of explicitly stated criteria for project selection and comparative rather than absolute judgments during the component identification process. For those reasons, the AIR-identified components were used here as the basis for comparative analysis of the six studies. Before the results of that analysis are described, the findings of the AIR study are detailed.

On the basis of comparative analysis of 18 successful and 25 matched but unsuccessful programs, 91 treatment components were identified by AIR and categorized as Personnel, Method, Service, and Equipment components. Comparisons between successful and unsuccessful programs in terms of the presence or absence of each of the 91 components were inconclusive. The authors felt, however, that real differences did exist. When they considered qualitative differences as well as the mere presence or absence of components they found that the following features were more characteristic of successful than of unsuccessful programs at various grade levels:

Preschool Programs

- careful planning, including statement of objectives
- teacher training in the method of the program
- small groups and a high degree of individualization
- instruction and materials closely relevant to the objectives

Elementary School Programs

- academic objectives clearly stated
- active parental involvement, particularly as motivators
- individual attention for pupils' learning problems
- high intensity of treatment

Secondary School Programs

- academic objectives clearly stated
- individualization of instruction
- directly relevant instruction

The authors cautioned that their conclusions necessarily involved elements of subjective judgment. Certainly, the presence of the success-related characteristics could not be taken as a guarantee of effectiveness -- nor would their absence assure failure. A different set of successful and unsuccessful programs might have led the investigators to different conclusions. As is shown below, however, the validity of their inferences is supported at least by the opinions of the other investigators whose studies are cited here.

Two of the 11 components of success identified in the AIR report were common across all grade bands while another was common to two grade bands. There were thus only six unique components: (a) academic objectives clearly stated and/or careful planning, (b) teacher training in the methods of the program (c) small group or individualized instruction, (d) directly relevant instruction, (e) high treatment intensity, and (f) active parental involvement. An analysis of the five other reports which discussed components of success was undertaken to determine the extent to which other investigators in the field agreed with the conclusions of Hawkridge and his colleagues in regard to those six unique components. The results of that analysis are summarized in Table 7.8. Also included in Table 7.8 is the one component, "structured environment" which was felt to be associated with success by more than one of the other teams of investigators but not by Hawkridge and his associates.

TABLE 7.8

Comparison of the Components of Success
Identified by Six Investigators

	Objectives & Planning	Teacher Training	Relevant Instruction	High Intensity	Parent Involvement	Indiv'lized Instruction	Structured Environment
Bissell	✓	✓				✓	✓
Gordon & Kourtrelakos	✓			✓	✓	✓	✓
Gordon & Wilkerson			✓	✓	✓		
Hawkridge et al.	✓	✓	✓	✓	✓	✓	
McDill et al.	✓	✓	✓		✓	✓	
Posner	✓					✓	

Note: The above table does not include ten components which were mentioned only once each by the following authors: Bissell - emphasis on language development, constant supervision of teachers and aides; Gordon & Kourtrelakos - home-based support of learning program, personnel committed to prescribed procedures, provision of immediate feedback, ample teacher planning time; Gordon & Wilkerson - peer teaching and learning, new materials and technology, learning task-specific grouping, and staffing (quantity, expert teachers, paraprofessionals, male models, support staff).

The analysis summarized in Table 7.8 was made difficult by the fact that none of the reviewed reports presented a specific list of components of success. Consequently, it was necessary to infer those components from narrative statements in the reports. Furthermore, since the studies did not all use the same terms in describing components, some additional judgment was required to equate apparently similar components described in different terms. Nevertheless, Table 7.8 summarizes the agreement between the components of success identified by AIR and the other five studies concerned with the identification of such components.

As indicated in Table 7.8, a total of five of the six research teams found the two components, "academic objectives clearly stated and/or careful planning" and "small group or individualized instruction," were associated with success in the projects they reviewed. Four of the studies agreed that "active parental involvement" was a component associated with success, and three studies agreed that "teacher training in the methods of the program," "directly relevant instruction," and "high treatment intensity" were often present in successful projects.

All six of the project components that AIR initially found to discriminate between matched successful and unsuccessful projects were also identified by two or more studies with similar objectives. Apparently, although those six studies varied in method and rigor, there was considerable agreement that the components identified in Table 7.8 are associated with success. Even greater credibility is given to those components when one considers the fact that the six studies that independently identified and agreed on those components reviewed and analyzed, for the most part, different projects. Clearly, the components identified in Table 7.8 are present in many successful projects, and they have been found to discriminate between successful and unsuccessful endeavors.

Component Analysis of Newly Identified Successful Projects

Since the original AIR component analysis, two more recent studies (Hawkridge et al., 1969, and Wargo et al., 1971) have identified an additional 21 successful compensatory education projects. To provide further evidence regarding the efficacy of the six previously identified components of success, each of the 21 recently identified successful projects was analyzed to determine the presence or absence of those components. Before discussing the results of that analysis, the subjectivity of the methods employed must be stressed. The method used to identify components of success by the original AIR study was based upon comparison of matched pairs of successful and unsuccessful projects. That technique resulted in judgments that were relative and, for the most part, clear-cut. The analysis described below was conducted without the aid of a matched set of unsuccessful projects. Consequently, judgments were made on an absolute basis and may reflect the lack of reliability usually inherent in such decisions. Although every attempt was made to be objective, biases may have been present, and the analysis must be regarded as a poor substitute for the more rigorous method used in the initial study.

The results of the analysis of the 21 newly identified successes are summarized in Table 7.9. As indicated by that table, the majority of the newly identified successful projects had at least four of the components that differentiated successful from unsuccessful projects in the original AIR study. Two of the 21 projects had all six of the components and an additional seven projects had five of them. Apparently, the six components of success that initially discriminated between 18 successful programs and their matched unsuccessful counterparts were also present in many of the 21 programs later found to meet the same criteria for success.

The apparent differences in the frequencies of occurrence of the six components in the 21 projects listed in Table 7.9 were evaluated by Chi Square analyses. Parental involvement was found to be present in significantly fewer projects than the other components ($p < .01$) while the next largest difference, that involving individualized instruction, fell just short of statistical significance ($.05 < p < .10$). None of the other differences in frequency of occurrence were found to differ from random or chance variation.

In addition to the six components identified by AIR and listed in Table 7.9, a "structured environment" component was identified as being associated with successful programs by two other studies. A supplementary analysis of all 41 of the AIR identified successes was made to determine how often "structure" was associated with success. While amount of structure is a difficult concept to quantify, 16 of the 41 successful projects were judged to be highly structured, 15 to be moderately structured, and 10 to have low structure. One project had low structure at the preschool and kindergarten levels but was considered to be moderately structured in grades one through six. On the basis of the results of that analysis, then, it can be concluded that "structured environment" is a component that is often associated with success; however, the frequency of its occurrence among unsuccessful programs is unknown.

As mentioned earlier, AIR found that some of the characteristics included in Table 7.9 discriminated between successful and unsuccessful programs only at certain age/grade levels. That distinction is reflected in Table 7.9 by the shaded areas which indicate those characteristics not found to be relevant to particular projects because of the grade level they served. Unshaded areas indicate characteristics that are relevant to those projects at their grade levels. The "structured environment" component was not included in the table since no data were available regarding the frequency with which that component occurred in unsuccessful programs at various grade levels.

The frequency of occurrence of "relevant" characteristics was found to be 71 percent with 63 of the possible 89 relevant characteristics present in the 21 projects. The rate of occurrence of characteristics not relevant to the grade level served by various projects was found to be 54 percent -- 20 of the 37 nonrelevant characteristics were present in the 21 projects. The difference between those frequencies was not

TABLE 7.9

Presence of Previously Identified Components of Success in 21 More Recently Identified Successful Compensatory Education Projects

Project	Location	Ages/Grades Served	Components/Characteristics						
			Objectives and Planning	Teacher Training	Relevant Instruction	High Intensity	Parent Involvement	Ind'lized Instruction	Total
Mother-Child Home	Freeport, N.Y.	2, 3 yrs. - Preschool	✓	✓	✓	✓	✓	✓	6
Oakland Preschool	Oakland, Calif.	3, 4 yrs. - Preschool		✓			✓	✓	3
Project Breakthrough	Chicago, Ill.	3.5-5.5 yrs. - Preschool	✓	✓				✓	3
Project Early Push	Buffalo, N.Y.	3.75-4.75 yrs. - Preschool		✓				✓	2
Ameliorative Preschool	Champaign, Ill.	4 yrs. - Preschool, K	✓	✓	✓	✓		✓	5
Learning to Learn	Jacksonville, Fla.	5 yrs. - K	✓	✓			✓	✓	4
Malabar Reading	Los Angeles, Calif.	Pre-K - 3rd grade	✓		✓		✓	✓	4
Alpha One	New York, N.Y.	1st grade	✓		✓	✓			3
Language Stimulation	Auburn, Ala.	1st grade	✓	✓	✓	✓		✓	5
Augmented Reading	Pomona, Calif.	1st - 3rd grade	✓	✓				✓	3
Project MARS	Leominster, Mass.	1st - 4th grade	✓	✓	✓	✓	✓	✓	6
Project Conquest	E. St. Louis, Ill.	1st - 6th grade	✓	✓	✓	✓		✓	5
Plus Program	Buffalo, N.Y.	1st - 8th grade		✓	✓	✓		✓	4
Fernald School	Los Angeles, Calif.	2nd - 8th grade	✓	✓	✓	✓		✓	5
Afternoon Remed. & Enrich.	Buffalo, N.Y.	3rd - 8th grade					✓	✓	2
Diagnostic Reading Clinic	Cleveland, Ohio	4th - 7th grade	✓	✓	✓	✓		✓	5
Remedial Reading Labs	El Paso, Texas	4th - 12th grade	✓	✓	✓	✓		✓	5
Lafayette Bilingual	Chicago, Ill.	6th - 8th grade	✓	✓	✓	✓	✓		5
Expanded Language Arts	Buffalo, N.Y.	7th - 12th grade		✓				✓	2
Higher Horizons 100	Hartford, Conn.	9th grade	✓		✓			✓	3
Summer Upward Bound	Terre Haute, Ind.	10th grade	✓		✓	✓			3
Total			16	16	14	12	7	18	83

Note: Shaded portions of table indicate characteristics not found relevant for age/grade bands served by corresponding projects (see text).

statistically significant (Chi Square = 2.55, $p > .10$), indicating that the presence or absence of those components was unrelated to AIR's initial judgment as to their relevance at particular age/grade levels. The "relevancy" of those components, then, is only meaningful in discriminating successful from unsuccessful projects at particular grade levels. When only successful projects are considered, the concept of "relevancy" to age/grade level loses its meaningfulness since components are just as likely to occur when they are not relevant as when they are relevant.

What emerges from the above review and analysis is additional evidence that the six components identified by AIR in 1968 are indeed related to the success of compensatory education projects. At least four or more of those components were found to be present in the majority of 21 successful projects identified since the original study. The relevance of each was also attested to by at least two other investigators working in the compensatory education field. While the initial AIR analysis suggested that the presence of some components discriminated between successful and unsuccessful projects only at certain age/grade levels, no evidence could be found here that they were more likely to be present at relevant than at nonrelevant grade levels within successful programs. Finally, none of the components was found to be either necessary or sufficient for success. No component was found in all successful projects and each component was found to be present in unsuccessful as well as successful projects. Apparently, although those six components will not guarantee success, they appear to be associated with successful programs and their presence differentiates successful from unsuccessful projects.

Cost and Benefit Issues

Since the inception of Title I in 1965, two policy issues relating to program costs and associated benefits have remained unresolved. The first deals with the actual benefits associated with various dollar expenditures -- program and project cost-effectiveness. The second issue concerns guidelines for minimum expenditures that may be necessary to ensure some measure of project success. Both of those issues have remained unresolved apparently because of their complexity and the fact that the data requirements which must be met to resolve them appear to be beyond the current state-of-the-art or at least the level of current practice. Despite these difficulties, an attempt was made to uncover whatever data could be found relevant to those issues. All such data were found in the FY 69 and FY 70 State Title I Annual Evaluation Reports and they were in no way representative of the LEA's in those states. Data were provided by states in response to a request for such information in guidelines they received from USOE's Division of Compensatory Education relating to the preparation of state reports. Data found relevant to the two issues of interest are summarized below.

Cost-effectiveness

The Division of Compensatory Education's request for any evidence that states could provide relating to the cost-effectiveness issue generated a wide variety of responses from individual states in both FY 69 and FY 70; however, only 53 of the 91 reports available for those years actually addressed the question. Of those that responded, a total of 6 states reported "hard data" which were or could be analyzed to evaluate the relationship between expenditures and benefits. Nine additional reports presented conclusions based upon some examination of per-pupil expenditures and project effectiveness without performing any statistical calculations to support their conclusions or presenting enough data for computations to be made. The majority of the states (38 of 53) that responded to the cost-effectiveness question made subjective conclusions unsupported by hard data. The conclusions made by those three groups of respondents are summarized below.

Table 7.10 presents the results reported by those states that conducted data analyses or provided sufficient hard data for AIR to complete such analyses. The information summarized in that table refers only to state remedial reading projects and, in most cases, is unrepresentative of the entire state. As can be seen, only one of the seven reported computations yielded a significant positive relationship between cost and effectiveness and, even in that case (Rhode Island), it was only one of two computations performed by the state -- the other being not significant. In addition to information on reading, Colorado presented data on projects in language arts and mathematics which, when analyzed, yielded correlations between costs and benefits of $r = .22$ ($df = 8$, $p > .10$) and $r = -.94$ ($df = 14$, $p < .01$), respectively. The effectiveness of projects in mathematics actually had a significant negative relationship with per-pupil expenditures. Judging from the information given by those states, there appears to be little or no statistical evidence of a positive relationship between per-pupil expenditures and project effectiveness.

In addition to the states which presented statistically sound data, five states in FY 69 and four in FY 70 presented conclusions based upon some examination of available data without performing any statistical calculations to support their conclusions or without presenting enough data for appropriate computations to be made. Five of those states found no relationship between cost and effectiveness. States finding no relationship cited the wide range in per-pupil expenditures within levels of project effectiveness. They concluded that achievement must be related to some other variable or set of variables.

Four of the remaining reports that based conclusions on some data found a positive relationship between cost and effectiveness. Three of them supported their conclusions by stating that past levels of funding had been ineffective in bringing about desired achievement and they therefore set higher required per-pupil expenditure guidelines for their LEA's.

TABLE 7.10

Statistical Evidence of the Relationship between Cost and Effectiveness in Reading Projects

Report	Statistic	Basis for Effectiveness Rating
Colorado 69	$r = .28$ $df = 14$ $p > .10$	Mean change in T score
Connecticut 69	$r = -.16$ $df = 49$ $p > .10$	Grade-equivalent gain
Hawaii 70	rho = .14 $df = 52$ $p > .10$	Average monthly gain
North Dakota 69	$\chi^2 = 19.61$ $df = 12$ $p > .10$	Grade-equivalent gain in months per month between testing
Rhode Island 69	rho = .51[1] $p < .05$ $r = .23$[1] $p > .10$ $df = 23$	Average monthly gain
Rhode Island 70	rho = .20 df unknown	Average monthly gain

1. Rho and r calculated from raw data. These statistics differ from those presented in the Rhode Island report which were, respectively, .39 and .26.

None of them, however, presented evidence as to why the past lack of success should be attributed to funding level, rather than to some other variable such as lack of planning. The remaining reports in that class of respondents concluded that a positive relationship exists, but admitted that the evidence presented did not necessarily support that conclusion.

The overwhelming majority (32 of 38) of the reports giving answers based upon subjective impressions alone felt that there was a positive relationship between cost and effectiveness. Reports in this group cited the high cost of reducing teacher-pupil ratios, providing comprehensive services, and adding new programs, materials, training, or supportive services. Replies given by most states in this group implied a lack of understanding of the methods used to assess the relationship between cost and effect.

Six states reported subjective impressions to the effect that there was no relationship between cost and effectiveness. Most of those states, and the five states that reported conclusions based upon "some" data, attributed variations in achievement to other factors. Arkansas in FY 69 stated that "...effectiveness is related to planning and programming to a much greater degree than cost (p 44)," while Montana (FY 69) reported that "The effectiveness of Title I projects was attributed to individual concentration of programs designed specifically for area needs (rather than cost; p D-11)." Missouri stated that it was the efficiency in the use of expenditures that was more important than the exact level of such expenditures.

In summary, nearly all of the reports (32 of 38) that answered the cost-effectiveness question on a purely subjective basis concluded that there was a positive relationship between expenditures and benefits. On the other hand, five of the six reports that presented empirical evidence concluded that no relationship could be found. Despite the small number of cases involved, the difference between the proportions of those two responding groups was found to be statistically significant (Fisher's Exact Probability = .002), indicating that the conclusions based on hard data differed significantly from those made on the basis of subjective impressions.

Although no hard evidence could be found in the state reports that suggested a positive relationship between costs and associated benefits, it seems likely that some positive relationship does exist. Clearly, the relationship is not strong since there is ample evidence in the state reports that large per-pupil expenditures can be made without their having any impact whatsoever on the cognitive growth of participating children and, conversely, small expenditures have sometimes resulted in large benefits. Apparently, it is "how the money is spent," rather than how much money is spent that determines the benefits children derive from Title I programs.

Minimum Necessary Expenditures

Related to the cost-effectiveness problem is the issue of the minimum Title I per-pupil expenditures that are necessary to ensure some success in compensatory education. Assuming that there is some positive relationship between costs and cognitive benefits, then there must be some point on the expenditure continuum at which per-pupil expenditures begin to have some positive effect on participating students. State Title I Annual Evaluation Reports for FY 69 and FY 70 were reviewed to determine if any evidence for such a minimum necessary expenditure could be found. Little hard data could be found directly related to that issue. Nevertheless, the information that was available is summarized below.

Only four states (California, Minnesota, New Jersey, and Rhode Island) cited minimum funding levels that they felt were necessary for project success. California (FY 69) reported that projects with per-pupil expenditures less than $250 failed to produce any significant benefits. Their state report concluded that a minimum of $275 to $300 supplemental Title I per-pupil expenditure was required before a project had any significant effect on participants. Their report did not, however, include any hard data that could be used to substantiate that conclusion. The FY 69 Minnesota report stated that "...districts were admonished to spend approximately $300 per child because it was felt that the usual expense of about $100 was ineffective." Again, no supporting evidence or further information was provided. New Jersey (FY 70) stated that as a result of a review of project results and expenditures over the past four years, they set a minimum of $300 per-pupil expenditure for their LEA's. No supporting evidence or other related information was available in their report.

The FY 69 Rhode Island state report provided the only hard data relevant to the minimum expenditure issue. The report ranked 24 reading projects in regard to their per-pupil Title I expenditures and average monthly gains in reading. They reported a low and not statistically significant correlation between per-pupil expenditures and average monthly gain ($r = .23$ $p > .05$) and concluded that:

> No project which spent less than $150 per pupil, showed acceptable achievement. This appears striking enough to make it doubtful as to whether projects should be funded at this level. On the other hand, funding of over $300 per pupil does not appear to be definitely of value. This is especially true when one considers that one project with low achievement had a $622 per-pupil expenditure. ...The conclusion might well be drawn that expenditures of $150-300 per pupil allow for a wide range of achievement and that within that range of funding we must look to some other variable or variables to explain the wide diversity of achievement output (p 52).

Five states reported data on mean per-pupil expenditures associated with successful projects, without specifying a minimum necessary for success. During FY 69 the range of Title I per-pupil expenditures in Wyoming was $8 to $387 with a mean of $70 reported for the most successful projects. The following year the range was $8 to $596, with the successful project mean per-pupil expenditure equal to $149. Four other states, Colorado, Connecticut, North Dakota, and Rhode Island, reported mean expenditures for both most successful and least successful projects. The mean expenditures for the most effective projects across those states were, in all cases, less than $279, while eight of the least effective projects in one state had average per-pupil expenditures of $395, and in another state the least effective projects had an average per-pupil expenditure of $513. On the basis of those five states, then, successful projects had per-pupil expenditures averaging between $70 and $279 while many unsuccessful projects had significantly higher per-pupil expenditures.

Apparently, both cost-effectiveness and minimum expenditure issues are still unresolved. There appear to be at least three reasons for that state of affairs. First, sound cost and benefit data have yet to be collected and analyzed in an appropriate manner. Second, there is ample evidence that treatment differences unrelated to costs have large effects on impact and consequently should be considered during such analyses. Third, and perhaps most directly relevant, most data analyses have ignored the fact that Title I funds are supplemental to regular state and local per-pupil expenditures. As such, their effect is to some extent determined by the level of regular expenditure that they supplement. High regular expenditure districts already provide many compensatory services that lower expenditure districts can provide only with supplemental funds such as Title I. Obviously, to settle the issues of cost-effectiveness and minimum expenditure levels, the regular per-pupil expenditures that Title I funds supplement must be considered. Perhaps, when adequate data are collected and analyses consider treatment variables as well as regular expenditures, the cost-effectiveness and minimum expenditure issues will be finally resolved.

BIBLIOGRAPHY

Abt Associates, Inc. *Conceptual and applied work in planning and management systems for federal and state operations*. First Interim Report. Cambridge, Mass.: AA, Inc., March 1970.

Adams, B. K., Hill, Q. M., Perkins, J. A., Jr., & Shaw, P. S. *Principles of public school accounting*. OE 22025. Washington, D. C.: U. S. Government Printing Office, 1967.

Advisory Council on State Departments of Education. *The federal-state partnership for education*. Fifth Annual Report. Washington, D. C.: U. S. Department of Health, Education, and Welfare/Office of Education, May 1970.

Alkin, M. C. The use of behavioral objectives in evaluation: Relevant or irrelevant? Paper presented to the Eighteenth Annual Western Regional Conference on Testing Problems, San Francisco, May 9, 1969.

Alkin, M. C. Products for improving educational evaluation. Fifth Annual Report to the U. S. Office of Education. In *UCLA Evaluation Comment*, 1970, *2*, 3. Los Angeles: Center for the Study of Evaluation, UCLA.

Alkin, M. C., Benson, C. S., & Gustafson, R. H. Economy of scale in the production of selected educational outcomes. Paper prepared for the Annual Meeting of the American Educational Research Association, Chicago, February 1968.

American Association of School Administrators. *The federal government and public schools*. Washington, D. C.: AASA, 1965.

Annas, P. A., & others. *Guide to assessment and evaluation procedures, the New England Educational Assessment Project*. Washington, D. C.: ERIC Reproduction Service, October 1966. ED 012 087.

Baggett, T. J. A conceptual design for coordinating the research efforts of the United States Office of Education. Unpublished doctoral dissertation, University of Alabama, 1971. Draft copy.

Ball, S., & Bogatz, G. A. *The first year of Sesame Street: An evaluation*. Princeton, N. J.: Educational Testing Service, October 1970.

Barkin, D. *Poverty and federal aid to education*. Working paper EDA 4. St. Louis, Mo.: Washington University/Institute for Urban and Regional Studies, October 1967. ED 025 562

Barkin, D. & Hettich, W. *The Elementary and Secondary Education Act: A distributional analysis*. St. Louis, Mo.: Washington University/Institute for Urban and Regional Studies, April 1968. ED 022 244

Barr, R. H., & Foster, B. J. *Statistics of public elementary and secondary day schools, fall 1969: Pupils, teachers, instruction rooms, and expenditures*. Washington, D. C.: U. S. Government Printing Office, 1970.

Bean, E. E., Dye, H. M., & Tallmadge, G. K. *Cost reductions achieved through utilization of engineered performance standards in Navy Public Works: Development and demonstration of a methodology*. Report No. PRC R-750. Los Angeles: Planning Research Corporation, December 1965.

Berke, J. S., Bailey, S. K., Campbell, A. K., & Sacks, S. *Federal aid to public education: Who benefits?* Syracuse, N. Y.: Syracuse University Research Corporation, January 1971.

Bissell, J. S. *The cognitive effects of pre-school programs for disadvantaged children*. Washington, D. C.: National Institute of Child Health and Human Development, June 1970.

Bissell, J. S. *Review and summary of the interim report: First year of evaluation, implementation of planned variation in Head Start*. Washington, D. C.: National Institute of Child Health and Human Development, April 1971.

Bondarin, A. *Assimilation thru cultural understanding: Hoboken, New Jersey*. New York: Center for Urban Education, Program Reference Service, 1969.

Bradley, B. D. *Some views on program budgeting*. Statement before the Assembly Committee on Ways and Means, California Legislature, Hearings on Program Budgeting. Santa Monica, Calif.: The Rand Corporation, November 1967.

Burke, A. J. Dimensions of need for educational programs for the culturally deprived. In R. L. Johns, K. Alexander, & R. Rossmiller (Eds.) *Dimensions of educational need. Vol. 1*. Gainesville, Fla.: National Educational Finance Project, 1969.

Burke, A. J., Kelly, J. A., & Garms, W. I. *Educational programs for the culturally deprived: Need and cost differentials*. National Educational Finance Project Special Study No. 3. Albany, N. Y.: State University of New York at Albany, School of Education, 1970.

Caro, F. G. Issues in the evaluation of social programs. *Review of Educational Research*, 1971, *41* (2), 87-114.

Carpenter, M. B., & Haggart, S. A. Cost-effectiveness analysis of educational planning. *Educational Technology*, October 1970.

Carr, J. V. *The 1968 New Hampshire state testing program*. Concord, N. H.: Department of Education, undated.

Carter, J., Gilmer, B., Vanderzwaag, R., & Massey, K. Health and nutrition in disadvantaged children and their relationship with intellectual development. Nashville, Tenn.: Demonstration and Research Center for Early Education, George Peabody College for Teachers and Vanderbilt University School of Medicine, undated.

Clark, D. L., & Guba, E. G. An examination of potential change roles in education. Washington, D. C.: National Education Association/Center for the Study of Instruction, October 1965. ED 043 226

Coleman, J. S., Campbell, E. Q., Hobson, C. J., McPartland, J., Mood, A. M., Weinfeld, F. D., & York, R. L. Equality of educational opportunity. Washington, D. C.: U. S. Department of Health, Education, and Welfare/ Office of Education, 1966.

Committee on Education and Labor. A compendium of federal education laws. Washington, D. C.: U. S. Government Printing Office, May 1967.

Committee on Labor and Public Welfare. Elementary and Secondary Education Act Amendments of 1967 with background materials and tables. Washington, D. C.: U. S. Government Printing Office, March 1968.

Council of the Great City Schools. Title I in the Great City Schools: An analysis of evaluation practices and exemplary projects. Washington, D. C.: Research Council of the Great City Schools, July 1970.

Curtis, R. J. ESEA puts focus on children. Tallahassee, Fla.: State Department of Education, March 1968. ED 022 835

Dentler, R. A. Urban eyewash: A review of Title I/Year II. The Urban Review, February 1969, 3 (4), 32-33.

Di Lorenzo, L. Pre-kindergarten programs for educationally disadvantaged children. Final Report. Albany, N. Y.: New York State Education Department/Office of Research & Development, December 1969.

Education Commission of the States/Task Force on Early Childhood Education. Early childhood development. Alternatives for program implementation in the states. Denver: ECS, June 1971.

Educational Testing Service. On evaluating Title I programs. Proceedings of a workshop on evaluating Title I programs held April 11-15, 1966. Princeton, N. J.: ETS, 1966.

Educational Testing Service. Disadvantaged children and their first school experiences. ETS-Head Start longitudinal study: From theory to operations. PR-69-12. Princeton, N. J.: ETS, August 1969.

Educational Testing Service. Disadvantaged children and their first school experiences. ETS-Head Start longitudinal study: The sample; operations in the Head Start year. PR-70-2. Princeton, N. J.: ETS, February 1970.

Egbert, R. L. Follow Through project directory, school year 1969-70. Washington, D. C.: U. S. Department of Health, Education, and Welfare/ Office of Education, 1969.

Eidell, T. L., & Klebe, J. A. (Compilers) Annotated bibliography on the evaluation of educational problems. Eugene, Ore.: ERIC Clearinghouse on Educational Administration, November 1968. ED 025 857.

Federal Register, April 27, 1971, 36, 81, pages 7861-7863.

Fogg, G. K. Statistical evaluation of comparability, state of Mississippi, 1967-68 school year. Jackson, Miss.: State Department of Education/ Office of Programs for the Disadvantaged, September 1969.

Foley, W. J. Selected relationships between pupil, staff, and educational faculty characteristics associated with P. L. 89-10, Title I projects in Iowa. Final Report. Iowa City, Iowa: University of Iowa, May 1969.

Fortune, J. C., Berliner, D. C., & Hutchinson, T. E. Analysis of the 1969 Consolidated Program Information Report (CPIR). Volume I. Amherst, Mass.: University of Massachusetts, undated.

Fortune, J. C., Berliner, D. C., Hutchinson, T. E., & Cahen, L. S. Analysis of the 1969 Consolidated Program Information Report (CPIR). Volume II. Amherst, Mass.: University of Massachusetts, May 1971.

Fortune, J. C., & Hutchinson, T. E. Data analysis of 1969-70 survey of compensatory education (Title I). A proposal. Amherst, Mass.: University of Massachusetts, June 1970.

Fox, D. J., Flaum, L., Hill, F., Jr., Barns, V., & Shapiro, N. Evaluation of ESEA Title I projects in New York City 1967-68: More Effective Schools. Report A 097. New York: Center for Urban Education, December 1968.

Gideonse, H. D. Behavioral objectives: Continuing the dialogue. The Science Teacher, January 1969, 36 (1).

Gilmer, B., Miller, J. O., & Gray, S. W. Intervention with mothers and young children: A study of intrafamily effects. Volume 4, No. 11, 1970, DARCEE Papers and Reports. Nashville, Tenn.: Demonstration and Research Center for Early Education/George Peabody College for Teachers, December 1970.

Glass, G. V. Data analysis of 1968-69 survey of compensatory education (Title I). A proposal. Boulder, Colo.: University of Colorado, November 1969.

Glass, G. V. Data analysis of the 1968-69 survey of compensatory education (Title I). Final Report. Boulder, Colo.: University of Colorado/ Laboratory of Educational Research, August 1970.

Goodman, R. H., & Wilson, M. J. *The impact of Title I: An assessment program for New England. Volume I.* Final Report. Cambridge, Mass.: New England Education Data Systems, December 1967.

Gordon, E. W. Nonschool variables in the education of disadvantaged children. In J. T. Hastings (Chm.) *Proceedings of the 1968 Invitational Conference on Testing Problems*. Princeton, N. J.: Educational Testing Service, 1969.

Gordon, E. W., & Kourtrelakos, J. *Utilizing available information from compensatory education and surveys*. Final Report. New York: Teaching & Learning Research Corporation, June, 1971.

Gordon, E. W., & Wilkerson, D. A. *Compensatory education for the disadvantaged. Programs and practices: Preschool through college*. New York: College Entrance Examination Board, 1966.

Gordon, I. J. *Parent involvement in compensatory education*. Urbana, Ill.: University of Illinois Press, 1968.

Gorth, W. P., & Wightman, L. E. *Comprehensive achievement monitoring (CAM) described for state level evaluation of urban education projects*. Technical Memorandum No. TM-20. Amherst, Mass.: University of Massachusetts, April 1969.

Gray, S. W. *Selected longitudinal studies of compensatory education -- A look from the inside*. Nashville, Tenn.: Demonstration and Research Center for Early Education/George Peabody College for Teachers, 1969.

Grosswald, J. *The Philadelphia city-wide testing program: Report of the spring 1968 achievement test results*. Technical Report No. 6901. Philadelphia: Office of Research & Evaluation, School District of Philadelphia. December 1968.

Grotberg, E. (Ed.) *Critical issues in research related to disadvantaged children*. Princeton, N. J.: Educational Testing Service, September 1969.

Halasa, O. A search for alternatives to random assignment to treatment groups. From symposium "Methodological Considerations for Evaluative Research in a Big-city School System," Annual meeting of the American Educational Research Association, Minneapolis, Minnesota, March 1970.

Hawkridge, D. G., Campeau, P. L., DeWitt, K. M., & Trickett, P. K. *A study of further selected exemplary programs for the education of disadvantaged children*. Palo Alto, Calif.: American Institutes for Research, June 1969.

Hawkridge, D. G., Campeau, P. L., & Trickett, P. K. *Preparing evaluation reports: A guide for authors*. AIR Monograph No. 6. Pittsburgh, Pa.: American Institutes for Research, 1970.

Hawkridge, D. G., Chalupsky, A. B., & Roberts, A. O. H. A study of selected exemplary programs for the education of disadvantaged children, Parts I and II. Palo Alto, Calif.: American Institutes for Research, September 1968a.

Hawkridge, D. G., Tallmadge, G. K., & Larsen, J. K. Foundations for success in educating disadvantaged children. Palo Alto, Calif.: American Institutes for Research, December 1968b.

Heath, R. W. The ability of white teachers to relate to Black students and to white students. Technical Report No. 10. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, February 1970.

Heath, R. W., & Larnders, R. Interviews with seven Black high school students. Research and Development Memorandum No. 59. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, December 1969.

Heller, B. R. A history and description of ESEA Title I in New York City, 1965-1968. New York: Center for Urban Education, June 1968.

Hellmuth, J. (Ed.) Disadvantaged child. Volume 1. New York: Brunner/Mazel, Inc., 1967.

Hellmuth, J. (Ed.) Disadvantaged child. Head Start and early intervention. Volume 2. New York: Brunner/Mazel, Inc., 1968.

Hellmuth, J. (Ed.) Disadvantaged child. Compensatory education: A national debate. Volume 3. New York: Brunner/Mazel, Inc., 1970.

Hess, R. D. Parental behavior and children's school achievement: Implications for Head Start. In E. Grotberg (Ed.) Critical issues in research related to disadvantaged children. Princeton, N. J.: Educational Testing Service, September 1969.

Hilton, T. L. Growth study annotated bibliography. PR-69-11. Princeton, N. J.: Educational Testing Service, June 1969.

Hodges, K. M., and others. Educational survey to determine reading disabilities. Paper presented at the International Reading Association conference, Boston, Massachusetts, April 1968. ED 028 023

Jenkins, W. O. A simplified guide to the statistical analysis of test results: Statistical handling of behavioral outcomes from assessment measures of the effects of intervention programs. New York: City University of New York/Institute for Child Development and Experimental Education and the Center for Urban Education, June 1967.

Johns, R. L., Alexander, K., & Rossmiller, R. (Eds.) Dimensions of educational need. Volume I. Gainesville, Fla.: National Educational Finance Project, 1969.

Johns, T. L. (Ed.) Public school finance programs, 1968-69 (states and outlying areas). Washington, D. C.: U. S. Government Printing Office, 1969.

Jordan, D. C., & Spiess, K. H. Compensatory education in Massachusetts: An evaluation with recommendations. Amherst, Mass.: University of Massachusetts, March 1970.

Jurs, Stephen G. Multiple regression analyses of data from the 1969 survey of compensatory education. Appendix C in Data Analysis of the 1968-69 survey of compensatory education (Title I). Boulder, Colo.: University of Colorado/Laboratory of Educational Research, August 1970.

Kahn, G. Analysis of financial statistics of local public school systems 1967-68. Washington, D. C.: U. S. Department of Health, Education, and Welfare/National Center for Educational Statistics, 1970.

Karnes, M. B. Research and development program on preschool disadvantaged children. Final Report. Urbana, Ill.: University of Illinois/ Institute for Research on Exceptional Children, May 1969.

Kay, E. R. Vocational education: Characteristics of teachers and students 1969. Washington, D. C.: U. S. Department of Health, Education, and Welfare/National Center for Educational Statistics, December 1970.

Kelly, J., Jr. The four states project: California, Colorado, Oregon, Wisconsin. Report special, the NDEA National Institute for Advanced Study in Teaching Disadvantaged Youth. Washington, D. C.: American Association of Colleges for Teacher Education, December 1968.

Kiesling, H. J. Measuring a local government service: A study of school districts in New York state. The Review of Economics and Statistics, Vol. XLIX, No. 5, August 1967.

Kleinke, D. J. A suggested approach for examining the effects of a compensatory education program. Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 1971. ED 048 364

Kodman, F., Jr. Effects of preschool enrichment on intellectual performance of Appalachian children. Exceptional Children, March 1970.

Laboratory of Educational Research. Compensatory education evaluation 1968-69: Contingency tables. Boulder, Colo.: LER/University of Colorado, April 1970.

Levien, R. E. National Institute of Education: Preliminary plan for the proposed institute. Santa Monica, Calif.: The Rand Corporation, February 1971.

Levin, H. M. Cost-effectiveness analysis and educational policy -- profusion, confusion, promise. Research & Development Memorandum No. 41. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, December 1968.

Los Angeles City Unified School District/Measurement and Evaluation Section. ESEA Title I components - Evaluation reports, September 1968 through August 1969. Los Angeles: LACUSD, August 29, 1969.

Los Angeles City Unified School District. ESEA Title I evaluation abstracts, September 1968 - August 1969. Los Angeles: LACUSD, September 16, 1969.

Los Angeles City Unified School District/Measurement and Evaluation Branch. Executive abstracts: Evaluation ESEA Title I, 1969-70. Los Angeles: LACUSD, September 1970.

Los Angeles City Schools/Budget Division. Program budget. Analysis of the 1967-68 detail budget. Los Angeles: LACS, November 1967.

Los Angeles City Unified School District/Measurement and Evaluation Branch. Technical reports: Evaluation ESEA Title I, 1969-1970. Los Angeles: LACUSD, September 1970.

Mayeske, G. W. On the explanation of racial-ethnic group differences in achievement test scores. Paper presented at the Annual Meeting of the American Psychological Association, Washington, D. C., September 1971.

Mayeske, G. W., Wisler, C. E., Beaton, A. E., Jr., Weinfeld, F. D., Cohen, W. M., Okada, T., Proshet, J. M., & Tabler, K. A. A study of of our nation's schools. A working paper. Washington, D. C.: U. S. Department of Health, Education, and Welfare/Office of Education, 1969.

McDill, E. L., McDill, M. S., & Sprehe, J. T. Strategies for success in compensatory education: An appraisal of evaluation research. Baltimore: Johns Hopkins Press, 1969.

McLure, W. P., & Pence, A. M. Early childhood and basic elementary and secondary education - needs, programs, demands, costs. Special Study No. 1. Gainesville, Fla.: National Education Finance Project, 1969.

Mendelsohn, R. Is Head Start a success or failure: In J. Hellmuth (Ed.) Disadvantaged child. Compensatory education: A national debate. Volume 3. New York: Brunner/Mazel, Inc., 1970.

Miller, P. S., Hamilton, W. L., Peter, W., & Wickham, W. *Conceptual and applied work in planning and management systems for elementary and secondary education*. Draft, Phase II Report. Cambridge, Mass.: Abt Associates, Inc., 18 May 1970.

Mosbaek, E. J., Frola, F. R., Gordon, K. F., & Harrison, J. W. *Analyses of compensatory education in five school districts. Volume II: Case Studies*. Washington, D. C.: General Electric Company/TEMPO, August 1968.

Mosbaek, E. J., & others. *Analyses of compensatory education in five school districts. Summary*. Washington, D. C.: General Electric Company/TEMPO, 1968.

National Advisory Council on the Education of Disadvantaged Children. *Report of the National Advisory Council on the Education of Disadvantaged children*. Washington, D. C.: NAC, March 31, 1966.

National Advisory Council on the Education of Disadvantaged Children. *Summer education for children of poverty. Report of the National Advisory Council on the Education of Disadvantaged Children*. Washington, D. C.: U. S. Department of Health, Education, and Welfare/Office of Education, November 1966.

National Advisory Council on the Education of Disadvantaged Children. *Report of the National Advisory Council on the Education of Disadvantaged Children. Annual Report*. Washington, D. C.: NAC, January 31, 1968.

National Advisory Council on the Education of Disadvantaged Children. *Title I-ESEA: A review and a forward look -- 1969*. Fourth Annual Report. OE 37043. Washington, D. C.: U. S. Government Printing Office, 1969.

National Advisory Council on the Education of Disadvantaged Children. *The 1971 annual report to the President and the Congress -- Title I, ESEA -- The weakest link: The children of the poor*. Washington, D. C.: U. S. Government Printing Office, March 1971. (1971 0-419-878)

National Center for Educational Communication. *Model programs: Reading*. Bulletin. Washington, D. C.: U. S. Department of Health, Education, and Welfare/NCEC, 1971.

National Center for Health Statistics. *School achievement of children 6-11 years as measured by the reading and arithmetic subtests of the Wide Range Achievement Test*. Rockville, Md.: U. S. Department of Health, Education, and Welfare/Public Health Service, June 1970.

National Educational Finance Project. *Abstracts of NEFP satellite projects*. Reported at First National Conference of the National Educational Finance Project, Washington, D. C., December 1970. Gainesville, Fla.: NEFP, 1970.

National Program on Early Childhood Education. *Early childhood education program and research support literature -- A state of the art review.* Preliminary Draft. Washington, D. C.: NPECE, July 1971.

New England School Development Council. *Product #1: A preliminary list of evaluation questions for the secondary pupil centered instrument.* Newton, Mass.: NESDC, September 1970.

New England School Development Council. *Product #1: A list of evaluation topics for the secondary school survey.* Newton, Mass.: NESDC, January 1971.

New England School Development Council. *Revised policy questions for eight federally supported programs in education. Product #13, Introduction.* Newton Mass.: NESDC, July 19, 1971.

New England School Development Council. *A revised draft of policy questions for ESEA, Title I. Product #13, Parts 1 through 8.* Newton, Mass.: NESDC, July 19, 1971.

New York Times Service. U. S. recalls "misspent" school funds. *San Francisco Chronicle*, September 6, 1971.

Office of the Superintendent of Public Instruction. *A new look at Title One.* Springfield, Ill.: State of Illinois/OSPI, 1969.

Office of the Superintendent of Public Instruction. Special topics issue on Title I, ESEA. *Illinois Journal of Education*, 1970, *61* (5).

Office of the Superintendent of Public Instruction. *Title I evaluation briefs, 1969.* Springfield, Ill.: State of Illinois/OSPI, 1969.

Parmenter, T. (Ed.) *Title I and parent participation. Inequality in education, No. 6.* Cambridge, Mass.: Harvard University/Center for Law and Education, October 1970.

Peper, J. B. *Evaluation designs for Title I of the Elementary and Secondary Education Act for 1968-1969.* Philadelphia, Pa.: Office of Research & Evaluation, School District of Philadelphia, February 1969.

Politzer, R. L. *Problems in applying foreign language teaching methods to the teaching of standard English as a second dialect.* Research and Development Memorandum No. 40. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, December 1968.

Politzer, R. L., & Bartley, D. E. *Standard English and nonstandard dialects: Elements of syntax.* Research and Development Memorandum No. 54. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, October 1969.

Politzer, R. L., & Bartley, D. E. *Standard English and nonstandard dialects*: Phonology and morphology. Research and Development Memorandum No. 46. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, June 1969.

Politzer, R. L., & Bartley, D. E. *Teaching standard English as a second dialect: Suggested teaching procedures and sample microlessons*. Research and Development Memorandum No. 61. Stanford, Calif.: Stanford Center for Research and Development in Teaching/Stanford University, March 1970.

Porter, D. O., Porter, T. W., & Warner, D. C. The mobilization of federal aid by local schools: A political and economic analysis. Paper presented at the Annual Meeting of the American Educational Research Association, New York, February 5, 1971.

Porter, D. O., & Warner, D. C. How effective are grantor controls?: The case of federal aid to education. Paper presented at a joint session of the American Economic Association and the Association for the Study of the Grants Economy, Detroit, December 28, 1970.

Porter, D. O., & Warner, D. C. *How effective are grantor controls?: The case of federal aid to education*. Riverside, Calif.: University of California, January 1971. Mimeo paper.

Posner, J. *Evaluation of "successful" pre-Title I projects in compensatory education*. Draft. Office of Program Planning & Evaluation, Occasional Paper #8. Washington, D. C.: U. S. Department of Health, Education, and Welfare/Office of the Assistant Secretary for Program Coordination, April 1968.

Prest, A. R., & Turvey, R. Cost-benefit analysis: A survey. *The Economic Journal*, 1965, *LXXV*, 300.

Program Planning-Budgeting-Evaluating System Project. *Program budget for fiscal year 1970-71*. Miami: Dade County Public Schools, 1970.

Public Administration Service. *Correlation and coordination in the administration of federal grants for education*. Chicago: PAS, January 1970.

Public Administration Service. Grants management: *State education agencies and the Office of Education*. Chicago: PAS, 1971.

Purnam, J. F., & Tankard, G. G., Jr. (Compilers) *Pupil accounting for local and state school systems*. State Educational Records and Reports Series: Handbook V. Bulletin No. 39, 1964. Washington, D. C.: U. S. Government Printing Office, 1966.

Rand Corporation. Three staff papers on the California innovative schools program. Santa Monica, Calif.: The Rand Corporation, February 1970.

Rapp, M. L., Brunner, G. L., & Scheuer, E. M. An evaluation design for San Jose Unified School District's compensatory education program. Memorandum RM-5903-SJS. Santa Monica, Calif.: The Rand Corporation, May 1969.

Rappaport, D. New approaches in public education. New York: American Institute of Certified Public Accountants, undated.

Reason, P. L., & White, A. L. (Compilers) Financial accounting for local and state school systems: Standard receipt and expenditure accounts. State Educational Records and Reports Series: Handbook II, OE 22017. Washington, D. C.: U. S. Government Printing Office, 1966.

Reeves, B. F. The first year of Sesame Street: The formative research. New York: Children's Television Workshop, December 1970.

Regents Examination and Scholarship Center. The educationally disadvantaged in New York state: The scope of the problem as revealed by the 1966 pupil evaluation program test results. Albany, N. Y.: State Education Department/University of State of New York, December 1967.

Regents Examination & Scholarship Center. Educational disadvantage in New York state: A two year report of the pupil evaluation program test results. Albany, N. Y.: State Education Department/University of the State of New York, December 1968.

Research for Better Schools, Inc. A progress report: Individually prescribed instruction. Philadelphia: RBS, Inc., September 1969.

Root, N., & Cata, J. Profiles of children: 1970 White House Conference on Children. Washington, D. C.: U. S. Government Printing Office, 1970.

Schmitthausler, C. M. Effectiveness assessment in compensatory early childhood education: Need, direction, suggestions. The California Journal for Instructional Improvement, 1970, 13 (2), 93-98.

Scientific Educational Systems, Inc. Data analysis system and feasibility study design: Development of a common reading achievement metric. Progress Report No. 5. Washington, D. C.: SES, Inc., September 1969.

Scientific Educational Systems, Inc. Development of Joint Comprehensive Education System (JCES) master data analysis plan. Progress Report #1. Washington, D. C.: SES, Inc., May 1970.

Scientific Educational Systems, Inc. *Preliminary Draft. Master data analysis plan*. Progress Report #3. Washington, D. C.: SES, Inc., September 1970.

Scientific Educational Systems, Inc. *Specifications for evaluation reports for Titles and target groups administered by BESE*. Progress Report #4. Washington, D. C.: SES, Inc., October 1970.

Scott, R. O. *Decrement in children's cognitive performance as a consequence of information overload*. Ann Arbor, Mich.: Michigan University/Midwest Research Center, 1967. ED 013 472

Senate Fact Finding Committee on Revenue and Taxation. *State and local fiscal relationships in public education in California*. Sacramento, Calif.: Senate of the State of California, March 1965.

Silvern, L. C. *Systems engineering of education I: The evolution of systems thinking in education*. Los Angeles: Education and Training Consultants, 1968.

Silvern, L. C. *Systems engineering of education IV: Systems analysis and synthesis applied quantitatively to create an instructional system*. Los Angeles: Education and Training Consultants, 1969.

Simon, K. A., & Fullam, M. G. Projections of educational statistics to 1979-80. Washington, D. C.: U. S. Department of Health, Education, and Welfare/National Center for Educational Statistics, 1971.

Skager, R. W. *Evaluation and the improvement of compensatory educational programs*. Los Angeles: UCLA/Center for the Study of Evaluation, September 1969.

Spiegelman, R. G., Gorfinkel, M., Kurz, M., & Weiner, S. *A benefit/cost model to evaluate educational programs*. Menlo Park, Calif.: Stanford Research Institute, January 1968.

Sprigle, H. A. Can poverty children live on "Sesame Street?" *Young Children*, March 1971, *26*, (4), 202-217.

Stanford Research Institute. *Review draft. Longitudinal evaluation of the national Follow Through Program, July 1968 through November 1969*. Menlo Park, Calif.: SRI, December 1969.

Stanford Research Institute. *Review draft. Longitudinal evaluation of the national Follow Through Program, July 1968 through November 1969. Appendixes*. Menlo Park, Calif.: SRI, December 1969.

Stanford Research Institute. *Longitudinal evaluation of selected features of the national Follow Through Program. Appendix E: Classroom observation. Draft*. Menlo Park, Calif.: SRI, February 1971.

Stanford Research Institute. Longitudinal evaluation of selected features of the national Follow Through Program. Draft. Menlo Park, Calif.: SRI, March 1971.

Stanford Research Institute. Longitudinal evaluation of selected features of the national Follow Through Program. Appendix A: Statistical data. Draft. Menlo Park, Calif.: SRI, March 1971.

State Department of Education/Office of Public Information and Publications. ESEA Title I and rural Alaska -- An account of the things we did, 1968-1969. Juneau, Alaska: SDE, 1969.

State Department of Education/Division of Instructional Services, Office of Program Development. Connecticut evaluation of Title I of the Elementary and Secondary Education Act for fiscal year 1969. A report to Connecticut school districts. Hartford, Conn.: SDE, December 1969.

State Department of Education/Bureau of Continuing Education, Division of Instructional Services. Evaluation of Title I ESEA programs in Connecticut schools, fiscal year 1968. Hartford, Conn.: SDE, January 1969.

State Department of Education. A review of Title I Elementary and Secondary Education Act of 1965, state of Maine, 1965-69. Augusta, Me.: SDE, December 1969.

State Education Department/University of the State of New York. Assessment and evaluation handbook. Title I, ESEA. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. Program evaluators handbook: Determining objectives. One of the training and review series in ESEA Title III. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. Program evaluators handbook: Developing solutions. One of the training and review series in ESEA Title III. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. Program evaluators handbook: Measurement. One of the training and review series in ESEA Title III. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. Program evaluators handbook: Sampling model. One of the training and review series in ESEA Title III. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. 25 mathematics education programs funded under Title I Elementary and Secondary Education Act of 1965. Volume II. Albany, N. Y.: SED, undated.

State Education Department/University of the State of New York. *A primer for making site visits. A handbook in connection with special ongoing education projects*. Albany, N. Y.: SED, August 1970.

State Education Department/University of the State of New York. *Federal legislation and education in New York state*. Albany, N. Y.: SED, January 1971.

State Education Department/University of the State of New York. *Preparing program objectives. Proposal guidelines for categorically funded programs*. Albany, N. Y.: SED, April 1971.

State Department of Education. *Title I in Ohio. Fiscal year 1969, fourth annual evaluation of Title I (Elementary and Secondary Education Act)*. Columbus, Ohio: State of Ohio/SDE, 1970.

State Department of Education. *Title I in Oklahoma for educationally deprived children*. Oklahoma City: SDE, 1969.

State Department of Education/State Title I Staff. *Effective approach educational programs, Vol. II. A cooperative report by 25 Southwest Virginia public school divisions*. Richmond, Va.: SDE, undated.

Stollar, D. H., & Boardman, G. *Personal income by school districts in the United States*. Gainesville, Fla.: National Educational Finance Project, 1971.

Strickland, S. P. Can slum children learn? *American Education*, July 1971.

Stufflebeam, D. L. Evaluation under Title I of the Elementary and Secondary Educational Act of 1965. Paper presented at the Evaluation Conference sponsored by the Michigan State Department of Education, East Lansing, Michigan, January 1966. ED 024 156

Swassing, R. H. *A comparison list of instruments used in evaluating project effectiveness of Title VI-A (ESEA) and PL 89-313 activities*. Final Report. Lawrence, Kans.: Kansas University, March 1969.

Taber, V. A. *Educational disadvantaged in New York state: Statewide changes and present status as revealed by the 1968-69 pupil evaluation program test results*. Albany, N. Y.: State Education Department/University of the State of New York, December 1969.

Technomics, Inc. *The feasibility of cost-effectiveness analysis for Title I, Public Law 89-10*. First Interim Progress Report. Santa Monica, Calif.: T, Inc., August 1966.

Technomics, Inc. *The feasibility of cost-effectiveness analysis for Title I, Public Law 89-10*. Second Interim Progress Report. Santa Monica, Calif.: T, Inc., November 1966.

Technomics, Inc. *The feasibility of cost-effectiveness analysis for Title I, Public Law 89-10*. Final Report. Santa Monica, Calif.: T, Inc., January 1967.

Technomics, Inc. *The feasibility of cost-effectiveness analysis for Title I, Public Law 89-10*. Summary. Santa Monica, Calif.: T, Inc., April 1967.

Texas Education Agency. *Change and progress in Texas schools. Programs for the educationally disadvantaged*. Austin, Tex.: TEA, November 1968.

Texas Education Agency. *Programs in Texas for the disadvantaged. A report on 1969*. Austin, Tex.: TEA, March 1970.

Thomas, J. A. Cost-benefit analysis and the evaluation of educational systems. In J. T. Hastings (Chm.) *Proceedings of the 1968 Invitational Conference on Testing Problems*. Princeton, N. J.: Educational Testing Service, 1969.

Tulsa Public Schools/Department of Federal Projects. *Operation rescue. Volume 6*. Tulsa, Okla.: TPS, October 1970.

Unco, Inc. *The relative cost-benefit model*. Washington, D. C.: U, Inc., undated.

U. S. Congress, Senate. *An Act*, Public Law 89-10, 89th Congress, H. R. 2362, April 11, 1965.

U. S. Congress, Senate. *An Act*, Public Law 91-230, 91st Congress, H. R. 514, April 13, 1970.

U. S. Department of Health, Education, and Welfare/Bell, T. H. *Memorandum to Chief State School Officers: Advisory statement on development of comparability*. Washington, D. C.: USDHEW, September 18, 1970.

U. S. Department of Health, Education, and Welfare/Bell, T. H. *Memorandum to Chief State School Officers: Advisory statement on development of policy on public information*. Washington, D. C.: USDHEW, October 16, 1970.

U. S. Department of Health, Education, and Welfare/Bell, T. H. *Memorandum to Chief State School Officers: Advisory statement on development of policy on bonus payments for teachers as authorized by P. L. 91-230*. Washington, D. C.: USDHEW, October 26, 1970.

U. S. Department of Health, Education, and Welfare/Bell, T. H. *Memorandum to Chief State School Officers: Advisory statement on development of policy on parental involvement in Title I, ESEA projects*. Washington, D. C.: USDHEW, October 30, 1970.

U. S. Department of Health, Education, and Welfare/Burns, T. J. Memorandum to Chief State School Officers: Title I program management problems. Washington, D. C.: USDHEW, May 6, 1971.

U. S. Department of Health, Education, and Welfare/Burns, T. J. Memorandum to State Title I Coordinators, ESEA: Part C-special grants to urban and rural schools serving areas with the highest concentration of children from low-income families -- Title I, ESEA, P. L. 89-10, as amended. Washington, D. C.: USDHEW, July 10, 1971.

U. S. Department of Health, Education, and Welfare/Burns, T. J. Memorandum to Chief State School Officers: Amendment to Program Guide #67 and Interim 1972 allocations under Title I of the Elementary and Secondary Education Act, P. L. 89-10, as amended. Washington, D. C.: USDHEW, August 3, 1971.

U. S. Department of Health, Education, and Welfare/Goldberg, H. R. Memorandum to Chief State School Officers: Application for special incentive grant under ESEA Title I, Part B. Washington, D. C.: USDHEW, April 7, 1971.

U. S. Department of Health, Education, and Welfare/Hereford, K. T. Memorandum to State Title I Coordinators, ESEA, State Title I Evaluators: State annual evaluation report, Title I, ESEA, fiscal year 1969 (LEA programs for low income areas). Washington, D. C.: USDHEW, October 31, 1969.

U. S. Department of Health, Education, and Welfare/Hereford, K. T., & Staehle, J. F. Memorandum to State Title I Coordinators, ESEA, State Title I Evaluators: 1969 Survey of Compensatory Education. Washington, D. C.: USDHEW, November 4, 1969.

U. S. Department of Health, Education, and Welfare/HEW Audit Agency. Audit guide, Elementary and Secondary Education Act of 1965, Title I. Interim audit instruction C-10, state and local audits. Washington, D. C.: USDHEW, July 1, 1966.

U. S. Department of Health, Education, and Welfare/HEW Audit Agency. Report on problem areas noted during audits of state and local educational agencies, Title I, Elementary and Secondary Education Act of 1965. Washington, D. C.: USDHEW, March 21, 1969.

U. S. Department of Health, Education, and Welfare/Howe, H., II. Memorandum to Chief State School Officers, State Title I Coordinators: Use of Title I funds in local school districts undergoing desegregation or in racially segregated attendance areas. Washington, D. C.: USDHEW, February 27, 1967.

U. S. Department of Health, Education, and Welfare/Howe, H., II. *Memorandum to Chief State School Officers: Revised criteria for the approval of Title I, ESEA, applications from local educational agencies (supersedes Program Guide #36). ESEA Title I Program Guide #44*. Washington, D. C.: USDHEW, March 18, 1968.

U. S. Department of Health, Education, and Welfare/Hughes, J. F. *Memorandum to State Coordinators of Title I, ESEA: The National Institute for Advanced Study in Teaching Disadvantaged Youth. ESEA Title I Program Information #30*. Washington, D. C.: USDHEW, December 29, 1966.

U. S. Department of Health, Education, and Welfare/Hughes, J. F. *Memorandum to Chief State School Officers and Title I Coordinators, ESEA: Regulations for Title I - Summary of important changes. ESEA Title I Program Information #36*. Washington, D. C.: USDHEW, February 27, 1967.

U. S. Department of Health, Education, and Welfare/Hughes, J. F. *Memorandum to Chief State School Officers and Title I Coordinators, ESEA: Identification of pilot Follow Through centers for fiscal year 1968. ESEA Title I Program Information #46*. Washington, D. C.: USDHEW, April 18, 1967.

U. S. Department of Health, Education, and Welfare/Hughes, J. F. *Memorandum to Chief State School Officers and Title I Coordinators, ESEA: Inclusion of annual evaluation reports in ERIC. ESEA Title I Program Information #48*. Washington, D. C.: USDHEW, May 1, 1967.

U. S. Department of Health, Education, and Welfare/Hughes, J. F. *Memorandum to Title I Coordinators, ESEA: 1967 end-of-year statistical report on Title I program activities. ESEA Title I Program Information #57*. Washington, D. C.: USDHEW, May 29, 1967.

U. S. Department of Health, Education, and Welfare/Lessinger, L. M. *Memorandum to Chief State School Officers: Insuring the proper use of Title I, ESEA funds in 1970 programs. ESEA Title I Program Guide #45A*. Washington, D. C.: USDHEW, July 31, 1969.

U. S. Department of Health, Education, and Welfare/Lillywhite, B. A. *Informal letter to Chief State School Officers: Fiscal year 1970 final allocations and reallocation under Title I of the Elementary and Secondary Education Act, P. L. 89-10, as amended*. Washington, D. C.: USDHEW, March 25, 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Guidelines: Special programs for educationally deprived children, Elementary and Secondary Education Act of 1965/Title I. Section II: Design and evaluation of projects*. Washington, D. C.: USDHEW/OE, 1965.

U. S. Department of Health, Education, and Welfare/Office of Education. *Supplemental appendix to the survey on equality of educational opportunity. Section 9.10/correlation tables*. Washington, D. C.: U. S. Government Printing Office, 1966.

U. S. Department of Health, Education, and Welfare/Office of Education. *The states report: The first year of Title I, Elementary and Secondary Education Act of 1965*. Washington, D. C.: USDHEW/OE, 1966.

U. S. Department of Health, Education, and Welfare/Office of Education. *Title I Elementary and Secondary Education Act of 1965: School year 1965-66 highlights*. Washington, D. C.: USDHEW/OE, 1966.

U. S. Department of Health, Education, and Welfare/Office of Education. *Profile of ESEA: The Elementary and Secondary Education Act of 1965*. OE 20088-A. Washington, D. C.: U. S. Government Printing Office, 1967.

U. S. Department of Health, Education, and Welfare/Office of Education. *Stepping up with PACE (Projects to Advance Creativity in Education)*. Washington, D. C.: U. S. Government Printing Office, 1967.

U. S. Department of Health, Education, and Welfare/Office of Education. *For the record: Fiscal year 1967 highlights. Title I Elementary and Secondary Education Act of 1965*. Washington, D. C.: USDHEW/OE, 1968.

U. S. Department of Health, Education, and Welfare/Office of Education. *Profiles in quality education: 150 outstanding Title I, ESEA, projects*. OE 37018. Washington, D. C.: U. S. Government Printing Office, 1968.

U. S. Department of Health, Welfare, and Education/Office of Education. *Statistical report fiscal year 1967. Title I/Year II, Elementary and Secondary Education Act of 1965*. Washington, D. C.: USDHEW/OE, 1968.

U. S. Department of Health, Education, and Welfare/Office of Education. *Title I/Year II. The second annual report of Title I of the Elementary and Secondary Education Act of 1965, school year 1966-67*. OE 37013, Washington, D. C.: U. S. Government Printing Office, 1968.

U. S. Department of Health, Education, and Welfare/Office of Education. *Bureau of Elementary and Secondary Education programs, March 1969*. Washington, D. C.: U. S. Government Printing Office, 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Central city educational projects: Title III*. OE 20118. Washington, D. C.: U. S. Government Printing Office, 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Regulations: Title I of the Elementary and Secondary Education Act of 1965, Public Law 89-10*. Washington, D. C.: U. S. Government Printing Office, 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the South Carolina Department of Education management review*. Washington, D. C.: USDHEW/OE, March 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the Tennessee Department of Education management review*. Washington, D. C.: USDHEW/OE, April 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the Colorado Department of Education management review*. Washington, D. C.: USDHEW/OE, May 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the Minnesota Department of Education management review*. Washington, D. C.: USDHEW/OE, May 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the Vermont Department of Education management review*. Washington, D. C.: USDHEW/OE, May 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of the Oregon Department of Education management review*. Washington, D. C.: USDHEW/OE, June 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *History of Title I ESEA*. Washington, D. C.: U. S. Government Printing Office, June 1969. (Republished February 1970)

U. S. Department of Health, Education, and Welfare/Office of Education *Report of the Kentucky Department of Education management review*. Washington, D. C.: USDHEW/OE, June 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Title I ESEA program guides, numbers 44 and 45-A*. Washington, D. C.: U. S. Government Printing Office, August 1969.

U. S. Department of Health, Education, and Welfare/Office of Education. *Consolidated Program Information Report for fiscal year ending June 30, 1972*. Washington, D. C.: USDHEW/OE, 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Improving education through ESEA: 12 stories*. OE 20122. Washington, D. C.: U. S. Government Printing Office, January 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Statistical report, fiscal year 1968. A report on the third year of Title I ESEA*. Washington, D. C.: U. S. Government Printing Office, January 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Education of the disadvantaged. An evaluative report on Title I Elementary and Secondary Education Act of 1965, fiscal year 1968*. Washington, D. C.: U. S. Government Printing Office, April 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Report of a management review: Kansas State Department of Education*. Washington, D. C.: USDHEW/OE, May 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Manual for the preparation of the Consolidated Program Information Report (OE Form 4484) for fiscal year ending June 30, 1972*. Washington, D. C.: USDHEW/OE, November 1970.

U. S. Department of Health, Education, and Welfare/Office of Education. *Title I ESEA: Selecting target areas. Handbook for local Title I officials*. Washington, D. C.: USDHEW/OE, 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *Belmont program overview guide*. Washington, D. C.: USDHEW/OE, February 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *A study of the state management review program: Findings and conclusions*. Washington, D. C.: USDHEW/OE, June 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *Compilation of legislation on Title I -- Financial assistance to local educational agencies for the education of children of low-income families, reflecting the 1966, 1967, and 1970 amendments*. Washington, D. C.: USDHEW/OE, July 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *1970 statistical report, Title I*. Division of Compensatory Education. Washington, D. C.: USDHEW/OE, July 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *Status reports: Anchor Test, CPIR, Elementary School Survey, State Data Analysis Plan, Training*. Washington, D. C.: USDHEW/OE, As of August 23, 1971.

U. S. Department of Health, Education, and Welfare/Office of Education. *Consolidated Program Information Report for fiscal year ending June 30, 1969. Preliminary Data*. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Consolidated Program Information Report for fiscal year ending June 30, 1970. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Consolidated Program Information Report. Regular school term 1970-71 and summer school term 1971. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Elementary and Secondary Education Act of 1965-Title I. State annual evaluation report for fiscal year ending June 30, 1969. (Guidelines) Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Manual for the preparation of the Consolidated Program Information Report, for fiscal year ending June 30, 1970. OE Form 4484. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Manual for the preparation of the Consolidated Program Information Report for regular school term 1970-71 and summer school term 1971. OE Form 4484. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Recommendations of grassroots conferences sponsored by Office of Programs for the Disadvantaged. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Statement of functions for the Division of Compensatory Education. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare/Office of Education. Title I ESEA: Conducting on site visits. Handbook for state Title I officials. Washington, D. C.: USDHEW/OE, undated.

U. S. Department of Health, Education, and Welfare. Catalog of HEW assistance providing financial support and service to: States, communities, organizations, individuals. Washington, D. C.: USDHEW, August 1969.

Wargo, M. J., Campeau, P. L., & Tallmadge, G. K. Further examination of exemplary programs for educating disadvantaged children. Palo Alto, Calif.: American Institutes for Research, July 1971.

Washington Research Project, & NAACP Legal Defense and Educational Fund, Inc. Title I of ESEA: Is it helping poor children? Washington, D. C.: WRP, December 1969.

Watt, L. B. (Compiler) Literature for disadvantaged children: A bibliography. Washington, D. C.: U. S. Department of Health, Education, and Welfare/Office of Education, August 1968.

Weikart, D. A comparative study of three preschool curricula. Paper presented at the Society for Research in Child Development meeting in Santa Monica, California, 1969.

Weiss, C. H. The politicization of evaluative research. Journal of Social Issues, 1970, 26 (4), 57-68.

Westinghouse Learning Corporation & Ohio University. The impact of Head Start, an evaluation of the effects of Head Start on children's cognitive and affective development: Volumes I and II, text and appendices A - J. Springfield, Va.: Clearinghouse for Federal Scientific and Technical Information, June 1969. PB 184 328/329

White, S. H. The national impact study of Head Start. In J. Hellmuth (Ed.) Disadvantaged child. Compensatory education: A national debate. Volume 3. New York: Brunner/Mazel, Inc., 1970.

Wholey, J. S., Scanlon, J. W., Duffy, H. G., Fukumoto, J. S., & Vogt, L. M. Federal evaluation policy. Washington, D. C.: The Urban Institute, June 1970.

Wholey, J. S., White, B. F., Vogt, L. M., & Zamoff, R. B. Title I evaluation and technical assistance: Assessment and prospects. Washington, D. C.: The Urban Institute, October 1970.

Wholey, J. S., White, B. F., Vogt, L. M., & Zamoff, R. B. Title I evaluation and technical assistance: Assessment and prospects. Appendices. Washington, D. C.: The Urban Institute, October 1970.

Wildavsky, A. The political economy of efficiency: Cost-benefit analysis, systems analysis, and program budgeting. Public Administration Review, December 1966.

Winston, J. A. Chronicle of a decade, 1961-1970. Washington, D. C.: The Council of the Great City Schools, 1970.

Wiseman, J. Cost-benefit analysis in education. Southern Economic Journal, 1965, 32, Part 2, 1-14.

Wrightstone, J. W., Coleman, J. S., Hawkridge, D. G. & Chalupsky, A. B., Dyer, H. S., Mann, J., Mayer, M., Suchman, E. A., Rossi, P. H., Wynne, E., & Scriven, M. (Contributors) Evaluating Educational Programs: A Symposium. The Urban Review, February 1969, 3 (4), 4-22.

Zimiles, H. Has evaluation failed compensatory education? In J. Hellmuth (Ed.) Disadvantaged child. Compensatory Education: A national debate. Volume 3. New York: Brunner/Mazel, Inc., 1970.

APPENDIX A

SCALE OF ADEQUACY AND VALIDITY AND INSTRUCTIONS FOR ITS USE

STATE________________________YEAR________SCORE__________

SCALE OF ADEQUACY AND VALIDITY OF REPORTED DATA

____
Reviewer

COGNITIVE BENEFIT INFORMATION

2.0 Cognitive data are ideally* presented for all or a representative (or random) sample of students served.

1.5 Cognitive data are ideally* presented for a probably representative sample of students (description of sample or sampling procedure is not adequate for proof of representativeness).

1.0 Cognitive data are ideally* presented for a possibly biased sample of students (description of sample or sampling procedure does not suggest that biases exist; neither, however, is there any evidence to suggest that it is representative).

0.5 Cognitive data are ideally* presented for a probably biased sample of students (description of sample or sampling procedure suggests that the subgroups in the population served are likely not to be represented proportionately to their size. There is no evidence, however, that the sample was selected so as to show the largest cognitive benefits).

0.0 No hard cognitive data are presented.

* Cognitive benefit data ideally presented means:

1. Pre and posttest data or gain scores for treatment group, or posttest data for treatment and control group. (Deduct 0.3 if absent)
2. Measures describe distribution of scores (standard deviations, percentiles, deciles) not just measures of central tendency (mean, median, mode) -- Deduct 0.2 for measures of central tendency only; deduct 0.1 for quartile distribution.
3. Scores based on standardized achievement, readiness, or ability tests. (Deduct 0.3 for use of non-standard measures)
4. Tests administered and scored by independent evaluator. (Deduct 0.1 if done by classroom teachers or other "involved" personnel)
5. Presentation is based directly and solely on achievement test data. (Deduct 0.3 for contaminated data)

TARGET GROUP INFORMATION

Add to Cognitive Benefit score:

0.2 for total number served
0.2 for breakdown of target group by grade level
0.2 for breakdown of target group by race
0.2 for breakdown of target group by urban-rural (or community size)
0.2 for breakdown of target group by socioeconomic status
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF TARGET GROUP DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE TARGET GROUP SCORE

PROGRAM INFORMATION

Add to composite score:

0.2 for list of programs offered
0.2 for breakdown of number served by program
0.2 for breakdown of programs by grade level
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF PROGRAM DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE PROGRAM SCORE

COST INFORMATION

Add to composite score

0.2 for total or per-pupil costs
0.2 for breakdown of costs by program
0.2 for breakdown of costs by grade level
0.2 for any multidimensional breakdown

IF COGNITIVE BENEFIT SCORE IS ≥ 0.7

AND

IF COST DATA ARE INTEGRATED WITH COGNITIVE DATA

THEN

DOUBLE COST SCORE

Instructions for Use of the Scale of Adequacy and Validity of Data

Objective

The overall objective of the rating scale is to measure the usefulness of State Title I Annual Evaluation Reports as they relate to the following questions:

- What are the characteristics of the students served by Title I?
- What services are offered to them?
- What are the program costs?
- What cognitive benefits result from Title I?

Answers to these individual questions are of fundamental concern. Still more meaningful, however, is information regarding interactions among program input and output variables. Ideally, we would like to know costs per unit of cognitive benefit as a function of type of program and the race and socioeconomic status of the students served.

The score resulting from the rating process should place the rated reports in a rank order corresponding to their overall utility.

Procedure

The rating process begins with consideration of cognitive benefit information. The first decision to be made concerns sampling considerations. Full credit is given when achievement data are presented for all students served or for a representative sample. The report itself must describe sample characteristics or how the sample was drawn so as to assure representativeness. In the absence of such information we must assume some possibility of bias.

The scale has anchor points corresponding to "probably not biased" and to "probably biased." There is also an anchor point midway between these points which corresponds essentially to a "can't tell" situation. It is difficult to be more specific with respect to sampling adequacy because states have followed so many different strategies and because the reports vary so greatly with respect to the amount of information they present. Some examples, however, may be presented.

When states present all data from a single standardized test (even though different schools, school districts, or LEA's used different tests), we assume the sample is probably biased (0.5 rating points). If grade equivalent or percentile scores are pooled across whatever standardized tests are used but no standardized test data are available for large segments of the population, we would also suspect some bias. Assuming other things are equal, however, the latter approach should produce less bias (and encompass a larger proportion of the population) than the former approach. It should be rated higher than 0.5 -- perhaps 0.7 or 0.8 depending on other factors.

Implied in the above paragraph is an assumption that schools which use standardized tests may differ systematically in other educationally relevant ways from schools which elect not to use such instruments. This could be true even if the schools using standardized tests were geographically representative, ethnically representative, socioeconomically representative, etc. On the other hand, a sample representative on any one of these dimensions would probably be at least nearly representative of the others as well. A geographically (e.g., community size) representative sample which was comprised of all schools which administered standardized tests might be rated 1.2 or 1.3 depending on other factors.

Once a Cognitive Benefit Information sampling rating has been determined, it should be adjusted according to the quality of the data presented. The rating sheet provides guidelines but again does not cover all possibilities and judgment must be exercised. An illustrative example would be where the only indication of score distribution is the number of children performing above grade level and the number below. A decision must be made as to whether this should be scored the same as a quartile distribution (- 0.1) or as no distribution (- 0.2). In this instance the former alternative would represent the better choice.

If test data are presented but without any indication as to whether they are standardized or not, judgment should be exercised. Perhaps 0.1 or 0.2 should be subtracted from the score rather than the 0.3 deduction for tests known to be non-standardized. Detective work may provide some clues. Percentile and quartile distributions are likely to indicate normative data, for example, and hence the probability that standardized tests were used (- 0.1).

Occasionally states will report cognitive benefits for only a portion of the Title I effort. They may, for example, present reading achievement data for students participating in reading programs, math achievement data for students in math programs, and no achievement data for students in other programs. Although it does not represent an adequate solution to this problem, a decision was made to impose no penalties on states which report at least on reading program participants since reading is always the largest component of Title I programs. In other words, the same score would be earned for data on reading program participants only as would be earned for comparable data on an equally representative sample of participants in all Title I programs.

Target Group, Program, and Cost Information categories provide add-ons to the Cognitive Benefit score. For the most part, information contained on the rating sheet should be self-explanatory. There are some exceptions.

Information about the target group, programs, and costs may be presented either for the population or for just the evaluation sample. If the sample is representative, this practice presents no problems. Inferences made from sample data will be valid for the population. If the sample is not representative, of course, no conclusions can be made about the population and data presented are nearly useless for the purposes of this study. Unfortunately, there is no clear line of demarcation because there is usually no way to assess the size or the effects of possible bias. A decision criterion had to be established, however, and an admittedly arbitrary choice was made of 1.0 on the Cognitive Benefit Data sampling scale.

If scores equal to 1.0 or greater are given to a state report, then sample data on the target group, programs, and costs will be considered representative of the entire population and will earn full point credit as outlined on the rating sheet.

If scores of less than 1.0 are assigned, and target group, program, and cost information is presented for only the evaluation sample, no credit will be given.

The 0.2 credit to be given for various listed types of target group, program, and cost information can be modified in accordance with good judgment. A breakdown of the target group by grade band (e.g., K-3, 4-6, etc.) is clearly less informative than a breakdown by grade level and should receive less credit (0.1 instead of 0.2). Similar examples will, no doubt, be encountered during the review process.

The 0.2 credit for multidimensional breakdowns should not be restricted to within-category breakdowns. A breakdown of per-pupil costs by program, for example, (which cuts across two information categories) should receive 0.2 points. This type of breakdown, of course, should not be counted under both Program Information and Cost Information as it is not inherently more valuable than a within-category multidimensional breakdown (e.g., per-pupil costs by grade level).

Multidimensional breakdowns involving cognitive achievement gains are an exception to the statements of the preceding paragraph and are of special value to this study. Whenever cognitive benefit data are broken down for different segments of the target group, according to program, or by per-pupil expenditure, the total Target Group Information, Program Information, and/or Cost Information score should be doubled.

APPENDIX B

DESCRIPTIONS OF 41 SUCCESSFUL COMPENSATORY EDUCATION PROJECTS WITH EXPLANATORY NOTES AND DEFINITIONS

Explanatory Notes and Definitions to Accompany Project Profiles

Context (definitions)

Urban - Community of 2,500 or more inhabitants not within commuting distance of a city of 50,000 or more inhabitants.

Rural - Community of fewer than 2,500 inhabitants.

Suburban - Community of fewer than 50,000 inhabitants within commuting distance of a city with 50,000 or more inhabitants.

Title I Support (definitions)

Yes - Title I support. May have been either total or partial.

No - Unsupported by Title I.

Note: Evaluation of Title I support applies only to the calendar period cited unter Target Group Characteristics.

Number Served (note)

Figure given represents total number of children served during cited time period. In some instances it includes children in grade levels other than those where success was demonstrated.

Dates (note)

Dates reflect period for which evidence of project success was available to the AIR investigators. The projects may have operated at other times as well.

Age or Grade Range (note)

Only those age or grade ranges where success was demonstrated are reported. Projects may have served additional ages or grades.

Measured Cognitive Objectives (note)

Reference is made here only to those cognitive objectives for which there was evidence of project success. Projects may have had other objectives.

Treatment Duration (note)

Time given is from pretest to posttest or from beginning of treatment to posttest. Actual treatment duration may have been greater.

Components (note)

Only the most salient components within each of the listed categories are presented. Space limitations precluded exhaustive enumeration of all project characteristics.

Pupil-Teacher Ratio (definition)

Teacher - Adults in instructional roles were defined as teachers whether or not they were certificated or considered "professional." Adults in noninstructional roles were not counted.

Tests Used (note)

Only those tests are listed which provided evidence of cognitive benefits. Other tests may have been used as well.

ACADEMIC PRESCHOOL
Champaign, Illinois

Title I Support: No   Context: Urban

Target Group Characteristics

Number Served: 15-20 for each of two years   Dates: 1965-67

Age or Grade Range: 4-5 years old   Ethnic Group: majority Black

Other Pupil Characteristics: One or more years retarded in reading, language, or math; no prior preschool experience.

Project Characteristics

Measured Cognitive Objectives: Performance on tests of readiness in math and reading; stabilization or improvement in performance on tests of IQ.

Facilities: laboratory school classroom

Treatment Duration: Two hours daily for two years.

Components:

Personnel: Administrators prepared materials and trained teachers; teachers were undergraduates and heavily supervised.

Curriculum: programmed

Strategy: teacher directive

Environment: highly structured

Materials: modified commercially available ones

Pupil-Teacher Ratio: 5:1

Training: "extensive" pre- and inservice

Parent Involvement: none indicated

Tests Used: Stanford-Binet, Wide Range Achievement Tests - reading, math

Design and Results: Pre-post design. IQ and reading and math performance significantly better than control group.

AMELIORATIVE PRESCHOOL PROGRAM
Champaign, Illinois

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: same 30 for each of two years

Dates: 1965-67

Age or Grade Range: 4 years old

Ethnic Group: 2/3 Black
1/3 white

Other Pupil Characteristics: IQ's from 70 to over 100 (1/3 70-89, 1/3 90-100, 1/3 over 100); no prior preschool experience

---

Project Characteristics

Measured Cognitive Objectives: Performance on tests of readiness in math, reading, and language; performance on IQ tests.

Facilities: Preschool year in laboratory classroom; kindergarten year in regular classroom of public school.

Treatment Duration: 2 1/4 hours daily preschool; 1 hour daily kindergarten

Components:

Personnel: Teachers trained and experienced in early childhood teaching; no aides specified.

Curriculum: Content organized hierarchically; used game format; programmed reinforcement.

Strategy: teacher directive

Environment: highly structured; students grouped by ability

Materials: multisensory stimulators

Pupil-Teacher Ratio: 5:1

Training: regular teachers, once a week

Parent Involvement: none indicated

Tests Used: Stanford-Binet, California Achievement - reading, language, math

Design and Results: No pretest; posttest administered one year after two year treatment. IQ and reading, language, and math performance significantly better than control group.

DIAGNOSTICALLY BASED CURRICULUM
Bloomington, Indiana

Title I Support: No   Context: Urban

Target Group Characteristics

Number Served: 15 for each of three years   Dates: 1964-67

Age or Grade Range: 5 years old   Ethnic Group: white

Other Pupil Characteristics: IQ range from 50 to 85.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on IQ and language ability tests.

Facilities: experimental preschool

Treatment Duration: Four hours daily for one year.

Components:

Personnel: Teachers each year had special training, little experience; male aides used second and third years.

Curriculum: Based on thorough diagnosis of learning problems in language, concept, and fine motor development.

Strategy: teacher directive

Environment: Structured; used behavior modification techniques.

Materials: manipulative, games

Pupil-Teacher Ratio: 15:1 plus some aides

Training: regular teachers, once a week based on class

Parent Involvement: none indicated

Tests Used: Stanford-Binet, Columbia Mental Maturity, Illinois Test of Psycholinguistic Ability, Peabody Picture Vocabulary

Design and Results: Pre-post design. Gain or posttest scores significantly better than control group.

INFANT EDUCATION RESEARCH PROJECT
Washington, D. C.

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 28

Dates: September 1965 - June 1967

Age or Grade Range: 15 months old

Ethnic Group: Black

Other Pupil Characteristics: All males; relatively stable, uncrowded homes.

Project Characteristics

Measured Cognitive Objectives: Stabilization or improvement in performance on tests of IQ.

Facilities: children's homes

Treatment Duration: One hour daily, five days per week/21 months.

Components:

Personnel: Tutors had college degree, experience with inner-city children; no aides specified.

Curriculum: verbal stimulation

Strategy: Tutor directed play activities in the home with mother frequently present.

Environment: unstructured

Materials: toys, games, books

Pupil-Teacher Ratio: 1:1

Training: Tutors had two to three months initial training; 1/2 to 1 hour daily conference with supervisor.

Parent Involvement: Optional in tutorial sessions.

Tests Used: Bayley Infant, Stanford-Binet, Peabody Picture Vocabulary, Johns Hopkins Perceptual

Design and Results: Pre-post with follow-up. Gain or posttest scores significantly better than control group.

LEARNING TO LEARN PROGRAM
Jacksonville, Florida

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 24

Dates: 1965-66

Age or Grade Range: 5 years old

Ethnic Group: Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Performance on tests of IQ.

Facilities: preschool classrooms

Treatment Duration: Approximately three hours daily for nine months.

Components:

Personnel: Experienced teacher assisted by one full-time aide.

Curriculum: Structured sequence of game-like activities.

Strategy: Child-directed free activity for 90 minutes, teacher-directed small-group sessions for 10 to 20 minutes.

Environment: Large-group free periods with game-like activities; small group sessions with more structure; story and discussion period.

Materials: toys, games, books

Pupil-Teacher Ratio: Large group 20:1; small group 2-4:1; story 24:2

Training: Personnel had daily training and planning sessions with videotape.

Parent Involvement: Monthly meetings and biannual teacher-parent conferences.

Tests Used: Stanford-Binet, Peabody Picture Vocabulary, Illinois Test of Psycholinguistic Ability

Design and Results: Posttest only; scores significantly better than control group.

MOTHER-CHILD HOME PROGRAM
Freeport, New York

Title I Support: No Context: Suburban

Target Group Characteristics

Number Served: approx. 30 for each of two years Dates: 1967-70

Age or Grade Range: 2-3 years old Ethnic Group: 90 percent Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of IQ.

Facilities: children's homes

Treatment Duration: 1/2 hour twice a week for two years

Components:

Personnel: "Toy Demonstrators" - trained social workers and paraprofessionals.

Curriculum: Structured verbal interactions based on toys and books brought as gifts to child.

Strategy: Verbal interaction sessions between mother and child during visits by Toy Demonstrators.

Environment: moderately structured

Materials: Toys and books designed to stimulate verbal interaction.

Pupil-Teacher Ratio: 1:1

Training: Toy Demonstrators had 8-session training workshop, weekly inservice conferences.

Parent Involvement: Mothers trained to act as "interveners" for own children.

Tests Used: Peabody Picture Vocabulary, Stanford-Binet, Cattell Infant Intelligence

Design and Results: Pre-post with follow-up. Gain scores significantly better than control group.

PERRY PRESCHOOL PROJECT
Ypsilanti, Michigan

Title I Support: No   Context: Suburban

Target Group Characteristics

Number Served: 24 per year, 2-year cycle   Dates: 1962-66

Age or Grade Range: 3-4 years old   Ethnic Group: Black

Other Pupil Characteristics: Functionally retarded, IQ's 85 or below.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on IQ tests; performance on achievement tests in reading, language, and math.

Facilities: Regular classrooms in public schools; children's homes.

Treatment Duration: 16 1/2 hours weekly for two years prior to kindergarten

Components:

Personnel: Certified teachers with average of 10 years specialized experience.

Curriculum: highly structured thematic units

Strategy: "verbal bombardment"

Environment: Four activity centers in relatively freely structured classroom; 90-minute home visit once a week.

Materials: Manipulative plus "real-world" objects; traditional materials used in unique ways.

Pupil-Teacher Ratio: 6:1

Training: daily planning meetings

Parent Involvement: Weekly home sessions with child; monthly parent group meetings.

Tests Used: Stanford Binet, Peabody Picture Vocabulary, Leiter International Performance, California Achievement Test Battery

Design and Results: Pre-post with follow-up. IQ gain scores better than control group; achievement scores significantly better than control group.

PRESCHOOL PROGRAM
Fresno, California

Title I Support: Yes Context: Urban

Target Group Characteristics

Number Served: 1964-65, 45; growing to 750 over next four years

Dates: 1964-68

Age or Grade Range: 3-5 years old

Ethnic Group: mostly Mexican-American

Other Pupil Characteristics: Mostly Spanish-speaking; some residing outside Title I target area.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on test of language ability.

Facilities: 27 portable classrooms at 19 elementary school sites

Treatment Duration: Three hours per day/five days per week.

Components:

Personnel: 50 certificated half-time teachers

Curriculum: Emphasis on verbal communication and language development.

Strategy: Teacher-directed small group activities.

Environment: Moderately structured with use of teacher aides and parent volunteers.

Materials: typical preschool

Pupil-Teacher Ratio: 5:1

Training: Monthly staff meetings, study guides and inservice consultation from resource teachers.

Parent Involvement: Instructors in classroom, bimonthly parent meetings; use of parents on frequent field trips; parents' advisory committee met once a month.

Tests Used: Peabody Picture Vocabulary

Design and Results: Pre-post design. Gains statistically significant.

THE PRESCHOOL PROGRAM
Oakland, California

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: approximately 600 annually

Dates: 1966-70

Age or Grade Range: 3-4 years old

Ethnic Group: mostly Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of IQ.

Facilities: Regular classrooms in public schools.

Treatment Duration: 3 3/4 hours daily for 9 - 15 months

Components:

Personnel: One teacher and one teacher aide per class plus one parent volunteer; also school-community workers.

Curriculum: Individualized sequential series of learning units, emphasizing language skills.

Strategy: Teacher-directed small group activities.

Environment: Moderately structured with many enrichment activities and field trips.

Materials: typical preschool

Pupil-Teacher Ratio: 15:3 or 4

Training: Pre- and inservice for teachers, aides, school-community workers; daily 30-minute inservice for aides.

Parent Involvement: Volunteers in classroom; monthly parent meetings.

Tests Used: Pictorial Test of Intelligence

Design and Results: Pre-post design. Post scores significantly better than control group.

PROJECT BREAKTHROUGH
Chicago, Illinois

Title I Support: No Context: Urban

Target Group Characteristics

Number Served: 102 Dates: 1966-67

Age or Grade Range: 3.5-5.5 years Ethnic Group: mostly Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Stabilization of performance on IQ tests; performance on readiness tests.

Facilities: laboratory school classroom

Treatment Duration: 1 1/2 hours daily for 7-9 months

Components:

Personnel: Responsive environment laboratory supervisors and booth attendants; social caseworkers.

Curriculum: Edison Responsive Environment (ERE), student behavior evokes further stimuli.

Strategy: Transfer of child's discoveries to more formal learning experiences; social work services.

Environment: Highly structured ERE sessions and traditional nursery school experience.

Materials: "Talking Typewriters"

Pupil-Teacher Ratio: varied from 1:1 to 10:1

Training: pre- and inservice instruction

Parent Involvement: none indicated

Tests Used: Stanford-Binet, Peabody Picture Vocabulary, Metropolitan Readiness

Design and Results: Pre-post with follow-up. IQ Gain and performance significantly better than control group.

PROJECT EARLY PUSH
Buffalo, New York

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 650

Dates: 1967-68

Age or Grade Range: 3 years, 9 months - 4 years, 9 months

Ethnic Group: none given

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on readiness tests.

Facilities: Regular classrooms in public and parochial schools.

Treatment Duration: 1/2 day, 5 days per week/9 months

Components:

Personnel: Visiting teacher, home-school coordinator, teacher aides.

Curriculum: Use of a combination of practices found to be successful in other preschools; mostly child directed.

Strategy: Capitalize on learning potential in children's self-chosen activities.

Environment: Low structure, small group.

Materials: Furniture, housekeeping, art, music, and play materials.

Pupil-Teacher Ratio: 15:1

Training: Bimonthly inservice for teachers and aides.

Parent Involvement: Newsletter for parents; class visits urged; parent-teacher conferences and workshops; volunteer Parent-Council meets three times a year.

Tests Used: Peabody Picture Vocabulary

Design and Results: Pre-post design. Mental age gain of 11 months for 7 months between testing.

EARLY CHILDHOOD PROJECT
New York, New York

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 160 entered each year and remained for five years.

Dates: 1962-67

Age or Grade Range: pre-K - third grade

Ethnic Group: mostly Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on IQ and readiness tests.

Facilities: Laboratory school and regular public school classrooms.

Treatment Duration: five hours per week

Components:

Personnel: One teacher and one college-graduate assistant teacher per class; community aides and social worker.

Curriculum: Development of language and concept skills; inclusion of math and science skills in primary grades.

Strategy: Self-paced, individualized and small-group instruction; much feedback; creative dramatics.

Environment: moderately structured

Materials: Often designed by staff; Deutsch program; many games and manipulatives.

Pupil-Teacher Ratio: unknown

Training: Three weeks pre-service plus inservice for teachers and assistant teachers.

Parent Involvement: Monthly meetings; parents trained to support program at home with games, books, questions.

Tests Used: Stanford-Binet

Design and Results: Pre-post design. IQ gain scores significantly better than control group.

MALABAR READING PROGRAM FOR MEXICAN-AMERICAN CHILDREN
Los Angeles, California

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: Unknown, preschool through third grade in one school.

Dates: 1966-69

Age or Grade Range: pre-K - third grade

Ethnic Group: mostly Mexican-American

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading and language.

Facilities: Regular classrooms in public school.

Treatment Duration: Hours per week unknown; students treated for different lengths of time over five year period.

Components:

Personnel: Ten percent were Mexican-American.

Curriculum: Oral and written language emphasis.

Strategy: Individualized, self-directed approach capitalizing on child's response to internal as well as external stimuli.

Environment: Three "stations", moderate to low structure, from individual work with teacher to self-chosen activity.

Materials: Ginn basal readers, staff-developed bilingual materials.

Pupil-Teacher Ratio: 30:1, reduced by parent volunteers

Training: unknown

Parent Involvement: volunteers in classroom

Tests Used: Stanford Achievement - reading

Design and Results: Pre-post design. Gain scores significantly better than control group.

PS 115 ALPHA ONE READING PROGRAM
New York, New York

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 27

Dates: 1969-70

Age or Grade Range: first grade

Ethnic Group: mostly Spanish-speaking; Greek

Other Pupil Characteristics: Many could not speak fluent English.

Project Characteristics

Measured Cognitive Objectives: Performance on a primary reading test.

Facilities: regular classroom

Treatment Duration: Two hours daily during school year.

Components:

- Personnel: one full-time teacher
- Curriculum: Game-like phonics approach to decoding words.
- Strategy: Programmed success, teacher-directed lessons.
- Environment: Moderately structured, no special classroom arrangements; children get regular school program the rest of the day.
- Materials: Special "Alpha One" self-contained instructional package.
- Pupil-Teacher Ratio: 27:1
- Training: None required; materials contain complete kit of lesson plans.
- Parent Involvement: none indicated

Tests Used: Gates Primary Reading

Design and Results: Posttest only; scores significantly better than control group.

AUGMENTED READING PROJECT
Pomona, California

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 1,230

Dates: 1967-68

Age or Grade Range: first - third grade

Ethnic Group: mostly Mexican-American; Black, some white

Other Pupil Characteristics: Students selected on basis of teacher recommendations and diagnostic test scores.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: regular and other classrooms

Treatment Duration: Four months; number of hours varied according to need.

Components:

Personnel: Three counselors, two psychologists, four remedial reading specialists, one "helping teacher," and 36 teacher aides augmented regular teaching staff.

Curriculum: Remedial reading; supplemental to regular classroom instruction.

Strategy: Those with greatest need received individual or small group instruction outside regular classroom; those in regular classroom benefited from services of a shared helping teacher and a nonprofessional classroom aide who assisted with class management and a minimal amount of instruction; all instruction teacher directed; no one teaching method employed.

Environment: moderately structured

Materials: Special professional books and curriculum materials used; all commercially available.

Pupil-Teacher Ratio: 3-6:1 for those receiving special instruction

Training: Intensive pre- and inservice training provided for all staff through conferences, workshops, lectures.

Parent Involvement: Encouraged through psychologist and counselor liaison and parent meetings.

Tests Used: Wide Range Achievement - reading

Design and Results: Pre-post design. Gain scores significantly better than national norm.

LANGUAGE STIMULATION PROGRAM
Auburn, Alabama

Title I Support: No	Context: Urban

Target Group Characteristics

Number Served: 32	Dates: 1964-65
Age or Grade Range: first grade	Ethnic Group: Black

Other Pupil Characteristics: Mean IQ of 75 as measured by ITPA; two levels below grade level in language.

Project Characteristics

Measured Cognitive Objectives: Improvement in IQ and language ability

Facilities: laboratory classroom

Treatment Duration: One hour per day, four days per week/10 weeks.

Components:

Personnel: Director was Ph.D. candidate and faculty member at Auburn University; testing personnel were volunteers from Auburn Psychology Department; apparently no aides.

Curriculum: developmental language

Strategy: Students were pulled from their regular classrooms; instruction was in lieu of regular instruction in language; lessons highly structured and sequential; same teaching method used for all.

Environment: highly structured

Materials: Peabody Language Development Kit (lessons 1 through 40); story books.

Pupil-Teacher Ratio: 8:1

Training: Teachers trained in Peabody method.

Parent Involvement: none indicated

Tests Used: Stanford-Binet, Illinois Test of Psycholinguistic Abilities, California Reading Test, Durrell Analysis of Reading

Design and Results: Pre-post with follow-up. IQ and reading performance significantly better than control group.

PROGRAMED TUTORIAL READING PROJECT
Indianapolis, Indiana

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 43

Dates: 1965-66

Age or Grade Range: first grade

Ethnic Group: 60 percent Black, 40 percent white

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on criterion-referenced reading tests.

Facilities: other classroom

Treatment Duration: 1/2 hour daily for one school year

Components:

Personnel: Research director; head supervisor had only three years college and experience as programmer; field supervisors of tutors served as liaisons with school staff; paraprofessionals served as tutors.

Curriculum: Remedial reading to supplement classroom instruction.

Strategy: Student removed from classroom for instruction; tutors' behavior tightly programmed by "lesson plans;" tutors heavily supervised; guided discovery learning; success programmed in.

Environment: highly structured

Materials: Ginn basal reader plus special sequence of lesson plans developed at Indiana University.

Pupil-Teacher Ratio: 1:1

Training: Tutors received 12 hours pre-service training which required 12 additional hours of related home study; 6 hours inservice training also provided; continuous supervision.

Parent Involvement: none indicated

Tests Used: Metropolitan Readiness, Ginn

Design and Results: Pre-post design. Performance significantly better than control group.

SPEECH AND LANGUAGE DEVELOPMENT PROGRAM
Milwaukee, Wisconsin

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 136

Dates: 1966-67

Age or Grade Range: first - second grade

Ethnic Group: none given

Other Pupil Characteristics: Mean IQ of 84; low oral language facility as judged by teachers and therapists on basis of oral articulation test.

Project Characteristics

Measured Cognitive Objectives: Performance on tests of verbal language skill.

Facilities: other classrooms

Treatment Duration: Up to three hours per week for 15 weeks.

Components:

Personnel: Supervisor was a speech therapist and licensed in special education with 20 years experience; therapists were state licensed with an average of 7 years experience.

Curriculum: Rich in auditory and verbal stimuli consisting of a sequence of structural units developed by project staff and designed to improve talking and listening skills.

Strategy: Provided small group instruction outside normal classrooms; teacher directive.

Environment: Moderate to highly structured; therapists were flexible in responding to students' needs.

Materials: Some locally developed; others commercially available.

Pupil-Teacher Ratio: 7:1

Training: No pre- or inservice training specified.

Parent Involvement: Parents informed through newsletters and conferences.

Tests Used: Ammons Quick Test of Verbal-Perceptual Intelligence

Design and Results: Posttest with follow-up. Performance significantly better than control group.

MORE EFFECTIVE SCHOOLS
New York, New York

Title I Support: Yes   Context: Urban

Target Group Characteristics

Number Served: approximately 16,600 per year   Dates: 1965-67

Age or Grade Range: pre-K - sixth grade   Ethnic Group: majority Black or Puerto Rican

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading.

Facilities: regular classrooms

Treatment Duration: 1/2 day daily, Pre-K, full day daily, grades K - sixth/ one year.

Components:

Personnel: Staffs of each participating school included social workers, psychiatrists, speech improvement teachers, psychologists, community relations coordinators, and paraprofessional aides in addition to teaching and administrative personnel.

Curriculum: None special; emphasis on language skills and reading.

Strategy: Reorganized and expanded the teaching, administrative, and supportive staffs to better serve students in all areas of need; students were heterogeneously grouped in classes, offered more individual and small group instruction; provided remedial, tutorial, and enrichment instruction during regular school and after school hours; encouraged teachers to employ innovative techniques.

Environment: varied

Materials: Normal quota supplied schools was supplemented; wide variety of audiovisual equipment was purchased.

Pupil-Teacher Ratio: 15-22:1

Training: Preservice orientation for teachers and administrators; local colleges sponsored a variety of inservice activities and awarded scholarships for course study.

Parent Involvement: Community relations coordinators planned meetings, activities, and courses which many parents attended.

Tests Used: Metropolitan Achievement - reading

Design and Results: Pre-post design. Some gain scores per grade better than control group and national norm; however, no tests of significance.

PROJECT CONCERN
Hartford, Connecticut

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 260

Dates: 1967-68

Age or Grade Range: K - sixth grade

Ethnic Group: 4/5 Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of IQ, readiness, and achievement in basic skills.

Facilities: Other classrooms in suburban schools.

Treatment Duration: full day daily for one year

Components:

Personnel: Director of inservice training for aides, coordinator of aides, volunteer mother aides.

Curriculum: Same as that normally taught in the receiving school.

Strategy: Bused children to a suburban receiving school for full day's instruction and provided them with support from a team of one teacher and one aide who accompanied them to the school and provided services which varied from school to school.

Environment: varied

Materials: none mentioned

Pupil-Teacher Ratio: 25:1

Training: Monthly inservice workshop to train aides.

Parent Involvement: volunteer mother aides

Tests Used: Wechsler Intelligence, Primary Mental Abilities, Metropolitan Readiness, Iowa Test of Basic Skills, Sequential Test of Educational Progress

Design and Results: Pre-post design. IQ gain scores significantly better than control group; achievement gain scores significantly better than control group for some grades.

SCHOOL AND HOME PROGRAM
Flint, Michigan

Title I Support: No Context: Urban

Target Group Characteristics

Number Served: 1,100 Dates: 1961-62

Age or Grade Range: K - sixth grade Ethnic Group: Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: children's homes

Treatment Duration: Evenings, daily for five months.

Components:

Personnel: Some mothers were aides and served as home visitors, counselors, and attendance officers.

Curriculum: Direct involvement of parents in the at-home learning experiences of their children.

Strategy: Regular school teachers assigned special reading materials and exercises to students to be done at home and provided study guides for parents so that they could assist the students in developing good study habits and improve reading skills.

Environment: varied

Materials: Commercially available materials used in different ways; some locally developed ones.

Pupil-Teacher Ratio: not applicable

Training: Teachers met monthly to discuss progress, problems, and materials use.

Parent Involvement: Both in planning and implementing program.

Tests Used: Gates Revised Reading

Design and Results: Pre-post design. Performance significantly better than control group and disadvantaged norm.

AFTER SCHOOL STUDY CENTERS
New York, New York

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 30,000

Dates: 1966-67

Age or Grade Range: second - sixth grade

Ethnic Group: mostly Black or Puerto Rican

Other Pupil Characteristics: One year or more retarded in reading or math; not receiving remedial help in school.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: other classrooms

Treatment Duration: Up to 10 hours a week for 7 months of regular school year.

Components:

Personnel: No special personnel employed; no aides.

Curriculum: remedial reading

Strategy: Teachers tutored students individually and in small groups and assisted them with homework; no single teaching technique was characteristic of the program; offered two hours each afternoon; attendance voluntary.

Environment: moderately structured

Materials: primarily SRA Reading Labs

Pupil-Teacher Ratio: varied

Training: none mentioned

Parent Involvement: none indicated

Tests Used: Metropolitan Reading Test

Design and Results: Pre-post design. Performance significantly better than national norm.

INTENSIVE READING INSTRUCTIONAL TEAMS
Hartford, Connecticut

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 500

Dates: 1967-68

Age or Grade Range: third - sixth grade

Ethnic Group: none given

Other Pupil Characteristics: Reading below grade level with potential for growth; able to work within a group.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: other classrooms

Treatment Duration: Three hours daily for 10 weeks of regular school year.

Components:

Personnel: One reading specialist, two reading teachers per team; no aides.

Curriculum: remedial reading

Strategy: Teacher directive; teams provided one hour each of instruction in phonics/word attack, basal reading vocabulary and comprehension, individualized literature and library orientation each morning.

Environment: moderately to highly structured

Materials: Some locally developed packets; some commercially available.

Pupil-Teacher Ratio: 15:1

Training: each afternoon for teachers

Parent Involvement: Forty percent visited centers at least once for conferences.

Tests Used: California Reading Achievement

Design and Results: Pre-post design. Performance significantly better than national norm.

PROJECT CONQUEST
East St. Louis, Illinois

Title I Support: Yes

Context: Suburban

Target Group Characteristics

Number Served: 1,089

Dates: 1969-70

Age or Grade Range: first - sixth grade

Ethnic Group: mostly Black

Other Pupil Characteristics: Capable students whose reading problems could not be helped by regular classroom teachers; one year or more below grade level in reading; potential to read at grade level.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: Three clinics and other classrooms.

Treatment Duration: Grades one - three, 3/4 hour a day, 4 days per week/7 1/2 mos.
Grades four - six, 3/4 hour a day, 2 days per week/7 1/2 mos.

Components:

Personnel: One reading specialist; four reading teachers and one aide per clinic; nine specially trained reading teachers shared by "other classrooms;" three school community aides; four supervisors.

Curriculum: remedial reading

Strategy: Diagnosis in clinics and remediation either in "other classrooms" (grades one - three) or clinics (grades four - six); supplemental to regular school reading program; guaranteed success built in; remediation individualized; teacher directive.

Environment: moderately to highly structured

Materials: varied; all commerically available

Pupil-Teacher Ratio: 6:1

Training: Pre-service training two weeks to one year; inservice training one day per week.

Parent Involvement: Classrooms observers; regularly scheduled conferences; home visits.

Tests Used: Gates Primary Reading, Gates Advanced Primary Reading, Gates Survey, Gates-MacGinitie

Design and Results: Pre-post design. Gain scores statistically significant; performance significantly better than national norm.

PROJECT MARS
Leominster, Massachusetts

Title I Support: Yes

Context: Suburban

Target Group Characteristics

Number Served: 212

Dates: 1969-70

Age or Grade Range: first - fourth grade

Ethnic Group: Irish, French, Italian, Puerto Rican

Other Pupil Characteristics: Performance in reading was below potential ability as determined by diagnostic instruments.

Project Characteristics

Measured Cognitive Objectives: Reduction of discrepancy between ability and performance in reading.

Facilities: other classroom

Treatment Duration: 45 minutes daily for seven months

Components:

Personnel: One reading specialist, seven teachers specially trained in reading, no aides.

Curriculum: remedial reading

Strategy: Teacher directive, individual diagnoses, group remediation; supplemental to regular classroom instruction; students released from classrooms; no one teaching technique was characteristic of the program but all differed from tradition.

Environment: moderately structured

Materials: Commercially available but other than those used in regular classrooms.

Pupil-Teacher Ratio: 6:1 or better

Training: Inservice once a month and participation in summer reading institute.

Parent Involvement: Teacher conferences and 27 member parent advisory council.

Tests Used: Metropolitan Achievement

Design and Results: Pre-post design. Gain scores statistically significant; performance significantly better than national norm.

SELF-DIRECTIVE DRAMATIZATION PROJECT
Joliet, Illinois

Title I Support: No	Context: Urban

Target Group Characteristics

Number Served: 107	Dates: 1964-65
Age or Grade Range: first - fourth grade	Ethnic Group: mostly Black
Other Pupil Characteristics: none given	

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: regular classroom

Treatment Duration: Three to five times a week for seven months; two sessions each 3 1/2 months with an intermission.

Components:

Personnel: No special staff; no aides.

Curriculum: dramatic readings

Strategy: Student directive; students dramatized stories they read portraying self-chosen characters. Students worked in small groups (six). Remainder of day normal.

Environment: relatively unstructured

Materials: 200 commercially available high interest level storybooks.

Pupil-Teacher Ratio: 25 or 30:1

Training: Some inservice, amount not given.

Parent Involvement: none indicated

Tests Used: Gray-Votaw-Rogers Achievement - reading

Design and Results: Pre-post design. Performance significantly better than control group and national norm.

AFTERNOON REMEDIAL AND ENRICHMENT PROGRAM
Buffalo, New York

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 4,365

Dates: 1966-67

Age or Grade Range: third - eighth grade

Ethnic Group: mostly Black; some white, Puerto Rican.

Other Pupil Characteristics: Most tested one or more years below grade level on achievement tests.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in math and reading.

Facilities: other classrooms

Treatment Duration: 1 1/2 hours per day, 3 days per week/5 months

Components:

Personnel: No special staff; regular teachers working after regular hours.

Curriculum: remedial reading and math

Strategy: Teacher directive; no one teaching method was characteristic of the program; taught individually or in small groups.

Environment: moderately structured

Materials: Those used during regular school day and some additional reading materials.

Pupil-Teacher Ratio: 6:1

Training: none indicated

Parent Involvement: Planning and revising of program.

Tests Used: California Reading, California Achievement

Design and Results: Pre-post design. Performance significantly better than national norm.

FERNALD SCHOOL REMEDIATION OF LEARNING DISORDERS PROGRAM
Los Angeles, California

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 220

Dates: 1966-67

Age or Grade Range: second - eighth grade

Ethnic Group: 2/3 Black, 1/3 Mexican American or white

Other Pupil Characteristics: All male, at least 1.5 years behind national norm in school achievement; of average intelligence; non-paying in a school generally serving tuition only students.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading, language, and math.

Facilities: laboratory school

Treatment Duration: 6 hours daily, for 9 months

Components:

Personnel: Teachers and supervisors certified and specially trained in diagnosing and treating learning disorders; aides were graduate and undergraduate university students.

Curriculum: comprehensive remedial in all areas

Strategy: Students bused to lab school for total program; student directive, highly individualized; remediation and evalution followed diagnosis.

Environment: highly structured

Materials: Commercially available; comprehensive stock.

Pupil-Teacher Ratio: 5:1

Training: Extensive pre- and inservice training with some use of videotapes.

Parent Involvement: Part of remediation when necessary.

Tests Used: Wechsler Intelligence Scale, California Achievement - reading, math, language

Design and Results: Pre-post design. Performance significantly better than control group and national norm.

PLUS PROGRAM
Buffalo, New York

Title I Support: Yes | Context: Urban

Target Group Characteristics

Number Served: 7,436

Dates: 1967-68

Age or Grade Range: first - eighth grade

Ethnic Group: mostly Black; 1/4 white or Puerto Rican

Other Pupil Characteristics: Most were one to two years below grade level in school achievement.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading and math.

Facilities: other classroom

Treatment Duration: One to 1 1/2 hours daily (30 to 45 minutes in each subject) for 7.5 months in reading and 8 months in math.

Components:

Personnel: Teachers had regular or temporary certification (not special credientials), but did not hold regular teaching positions in schools.

Curriculum: corrective reading, remedial math

Strategy: Teachers provided small group and individual instruction during regular school day, but as supplement to regular classroom instruction; assisted regular classroom teachers in diagnosing problems for referral. No single teaching method employed.

Environment: moderately structured

Materials: Commercially available texts and games, specially ordered.

Pupil-Teacher Ratio: 5-6:1

Training: One week pre-service training with reading specialists plus attendance at service institutes in summer.

Parent Involvement: none indicated

Tests Used: California Achievement - reading, math

Design and Results: Pre-post design. Performance significantly better than disadvantaged norm.

DIAGNOSTIC READING CLINICS
Cleveland, Ohio

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 532

Dates: 1969-70

Age or Grade Range: fourth - seventh grade

Ethnic Group: none given

Other Pupil Characteristics: More than one year below expected reading level; none with "low" IQ's.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: clinics and regular classrooms

Treatment Duration: One hour daily for various periods of time ranging from 2.5 to 5.1 months.

Components:

Personnel: Certified reading specialists, speech therapists, psychologists, social workers, and aides from community.

Curriculum: remedial reading

Strategy: Clinic provides both diagnostic and remediation services and follow-up supportive services to regular classrooms; student directive; individualized.

Environment: highly structured

Materials: Commercially available but specially applicable to needs of program.

Pupil-Teacher Ratio: 1:1

Training: Monthly inservice training held for regular classroom teachers.

Parent Involvement: Attended monthly meetings; formally evaluated program; supported students.

Tests Used: Gates-MacGinitie Reading

Design and Results: Pre-post design. Performance significantly better than national norm.

ELEMENTARY READING CENTERS
Milwaukee, Wisconsin

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: over 1,000

Dates: 1966-67

Age or Grade Range: fourth - eighth grade

Ethnic Group: both Black and white

Other Pupil Characteristics: Average or above average IQ; one year or more retarded in reading.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: other and regular classrooms

Treatment Duration: 30 minutes daily for approximately 7 months (until reading at grade level).

Components:

Personnel: Supervisors and head teachers were credentialed and licensed both as reading specialists and specialized teachers; 2/3 of center teachers were also credentialed and licensed as reading specialists with average of 12 years experience.

Curriculum: remedial reading

Strategy: Individual diagnosis and group remediation provided at centers until students were reading at grade level; center staff also assisted regular classroom teachers in identifying problem cases and in supporting students upon their return to regular classrooms; no one teaching method employed.

Environment: moderately to highly structured

Materials: plentiful and commercially available

Pupil-Teacher Ratio: 5-8:1

Training: none indicated

Parent Involvement: none indicated

Tests Used: California Reading, Wide Range Achievement

Design and Results: Pre-post design. Performance significantly better than national norm.

THE LAFAYETTE BILINGUAL CENTER
Chicago, Illinois

Title I Support: Yes | Context: Urban

Target Group Characteristics

Number Served: 65

Dates: 1969-70

Age or Grade Range: sixth - eighth grade

Ethnic Group: mostly Puerto Rican

Other Pupil Characteristics: Spoke Spanish at home; recent arrivals to U. S.; normal IQ's.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of IQ, ability, and achievement in reading, language, and math.

Facilities: laboratory school - "school-within-a-school"

Treatment Duration: Six hours daily for eight months each year up to three years.

Components:

Personnel: Classroom teachers and supervisors were bilingual and most were credentialed to teach English as a Second Language (ESL). Bilingual aides assisted teachers but not with instruction. Resource teacher and school-community representative worked closely with parents.

Curriculum: Developmental reading and language; minimum of two hours daily.

Strategy: A full school program was offered, initially taught in Spanish with eventual transition to English; nongraded; individual diagnosis preceded remediation; individualized or small group instruction; 15 volunteer Anglo students participated in program serving as models and tutors.

Environment: Academic sessions highly structured; other sessions low to moderately structured.

Materials: Most were specially developed by staff.

Pupil-Teacher Ratio: 16:1

Training: Pre-service training for aides; inservice training for everyone one hour, twice a month.

Parent Involvement: Home visitations; attended adult classes in English; served on advisory council; informally evaluated program.

Tests Used: Short Test of Educational Ability, Test of General Ability, Metropolitan Achievement - reading, math, language

Design and Results: Pre-post design. Performance significantly better than national norm.

COMMUNICATION SKILLS CENTER PROJECT
Detroit, Michigan

Title I Support: Yes — Context: Urban

Target Group Characteristics

Number Served: 2,845 — Dates: 1966-67

Age or Grade Range: second - eleventh grade — Ethnic Group: mostly Black

Other Pupil Characteristics: none given

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading achievement tests.

Facilities: clinics and other classrooms

Treatment Duration: Approximately two hours per week for one or two semesters; summer session - one hour daily.

Components:

Personnel: Reading diagnosticians, psychologists, social therapists, and lay aides as well as remedial reading teachers.

Curriculum: remedial reading

Strategy: Individual diagnoses conducted at clinics; remediation provided individually or in small groups at clinics or in special classrooms.

Environment: moderately to highly structured

Materials: Specially developed at a reading lab in one of the clinics.

Pupil-Teacher Ratio: 8:1 in classrooms; 3:1 in clinics

Training: none indicated

Parent Involvement: none indicated

Tests Used: Stanford Reading Achievement

Design and Results: Pre-post design. Performance significantly better than disadvantaged norm.

REMEDIAL READING LABORATORIES
El Paso, Texas

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 824

Dates: 1969-70

Age or Grade Range: fourth - twelfth grade

Ethnic Group: mostly Mexican-American

Other Pupil Characteristics: Average intelligence; 1 to 1.5 years below grade level in reading achievement.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of basic skills.

Facilities: other classrooms

Treatment Duration: Approximately one hour daily for eight months.

Components:

Personnel: Counselors trained in diagnostic techniques referred students to lab teachers; half of the lab teachers were credentialed reading specialists; no aides.

Curriculum: remedial reading

Strategy: Use of special selection and scheduling procedures when diagnosing problems at labs; provision for systematic instructional planning and individualized instruction in labs; supplemental to classroom; access to reading resource centers.

Environment: highly structured

Materials: plentiful and commercially available

Pupil-Teacher Ratio: 8:1

Training: Approximately 27 hours of pre- and inservice training.

Parent Involvement: none indicated

Tests Used: Comprehensive Test of Basic Skills

Design and Results: Pre-post design. Performance significantly better than national norm.

HIGHER HORIZONS 100
Hartford, Connecticut

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 100

Dates: 1969-70

Age or Grade Range: ninth grade

Ethnic Group: none given

Other Pupil Characteristics: Average intelligence; one to three years retarded in reading; willing to participate.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of achievement in reading and writing skills.

Facilities: laboratory school; "school-within-a-school"

Treatment Duration: 3 3/4 hours daily for 8 months

Components:

Personnel: Two teachers were language specialists; one counselor worked full time with just these 100 students providing comprehensive services; one graduate student assisted with clerical duties, testing, and instruction.

Curriculum: Developmental and remedial writing and reading.

Strategy: Provided a comprehensive full day program in a demonstration school with intensive language training included in all academic instruction; taught by a special instructional team.

Environment: moderately structured

Materials: plentiful and commercially available

Pupil-Teacher Ratio: 12-13:1

Training: none indicated

Parent Involvement: Counselor visited parents when necessary.

Tests Used: Metropolitan Achievement, Iowa Silent Reading, SRA Writing Skills

Design and Results: Pre-post design. Performance significantly better than national norm.

PROJECT R-3
San Jose, California

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 70

Dates: 1967-68

Age or Grade Range: eighth - ninth grade

Ethnic Group: mostly Mexican-American

Other Pupil Characteristics: English speaking; at least one year below grade level but not more than two below in either reading or math.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading and math.

Facilities: other classrooms

Treatment Duration: Three morning class periods daily for a year.

Components:

Personnel: Full time reading specialist; full time electronic technician; no aides.

Curriculum: Developmental and remedial reading and math.

Strategy: Provided a special morning academic program in reading and math with applications to the solution of simulated or real world problems; normal junior high program in afternoon; provided several extended highly structured field trips to supplement instructional lessons.

Environment: moderately to highly structured

Materials: Some commercially available; others specially developed by Lockheed.

Pupil-Teacher Ratio: 15:1

Training: none indicated

Parent Involvement: Active participation in classroom activities, field trips, and meetings.

Tests Used: California Achievement - reading, math

Design and Results: Pre-post design. Performance significantly better than control group and national norm.

SUMMER JUNIOR HIGH SCHOOLS
New York, New York

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: unknown

Dates: Summer 1967

Age or Grade Range: seventh - ninth grade

Ethnic Group: mostly Black and Puerto Rican

Other Pupil Characteristics: At least two years retarded in reading or failed mathematics.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading and math.

Facilities: other classrooms

Treatment Duration: 1 1/2 hours daily for 4 weeks for each subject

Components:

Personnel: Regular teachers, counselors, and administrators employed; aides were high school graduates from impoverished communities in need of financial assistance to continue their education.

Curriculum: remedial reading and math

Strategy: Used conventional teaching techniques; grouped students by ability for reading but by grade for math.

Environment: Highly structured; a special handbook detailed procedures to be followed.

Materials: Some commercially available; others specially developed by project staff.

Pupil-Teacher Ratio: 20:1

Training: none indicated

Parent Involvement: none indicated

Tests Used: Metropolitan Achievement - reading, math

Design and Results: Pre-post design. Performance significantly better than national norm.

COLLEGE BOUND PROGRAM
New York, New York

Title I Support: Yes

Context: Urban

Target Group Characteristics

Number Served: 2,000

Dates: Summer 1967

Age or Grade Range: ninth - tenth grade

Ethnic Group: mostly Black and Puerto Rican

Other Pupil Characteristics: Good attendance and behavior records; likely to enter only a general high school program; 25 percent initially scored above grade level, 50 percent scored at grade level or two years below, remainder scored even lower in reading and math.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on achievement tests in reading and math.

Facilities: other classrooms called centers

Treatment Duration: Three hours daily for six weeks.

Components:

Personnel: Each guidance counselor served 100 students full time in the summer; community aides served as family-program liaisons; college student aides served as teaching assistants.

Curriculum: Developmental and remedial reading and math.

Strategy: Motivated students to pursue a college prep curriculum and provided intensive individualized instruction to assist them in realizing this goal. Local colleges and universities committed themselves to admitting and providing financial aid for a certain percentage of participants.

Environment: varied

Materials: none mentioned

Pupil-Teacher Ratio: approximately 20:1

Training: none indicated

Parent Involvement: Community aides explained program to families and assisted them in finding medical services.

Tests Used: Stanford Achievement - reading, math

Design and Results: Pre-post design. Performance significantly better than national norm.

EXPANDED LANGUAGE ARTS PROGRAM
Buffalo, New York

Title I Support: Yes	Context: Urban

Target Group Characteristics

Number Served: 1,884	Dates: 1966-67
Age or Grade Range: seventh - twelfth grade	Ethnic Group: none given

Other Pupil Characteristics: Fifty percent spoke Southern rural dialect; 20 percent spoke Italian and 1 percent spoke Spanish at home; 29 percent spoke standard English; 85 percent achieving in lower third of class.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on tests of language achievement.

Facilities: regular classrooms

Treatment Duration: One class period daily for nine months.

Components:

Personnel: No special personnel.

Curriculum: Remedial language arts - speaking and writing, not grammar.

Strategy: Decreased the pupil-teacher ratio in language arts classes by hiring more teachers; provided an individualized program; teachers closely supervised.

Environment: moderately structured

Materials: Commercially available; heavy use of audiovisuals.

Pupil-Teacher Ratio: 10:1

Training: One week pre-service; monthly inservice meetings; weekly observations and discussions.

Parent Involvement: none indicated

Tests Used: Sequential Tests of Educational Progress, California Language Test

Design and Results: Pre-post design. Performance significantly better than national norm.

HOMEWORK HELPER PROGRAM
New York, New York

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 410 students; 240 tutors

Dates: 1963-64

Age or Grade Range: third - sixth grades, students
tenth - twelfth grades, tutors

Other Pupil Characteristics: Students were retarded in reading, lacking independent study skills; tutors had IQ over 100, reading at grade level or better, potential dropouts, not necessarily economically disad.

Ethnic Group: At least 50 percent Puerto Rican, 30 percent Black - students; 19 percent Puerto Rican, 18 percent Black - tutors.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on reading tests.

Facilities: other classrooms, after school

Treatment Duration: Two or four hours per week for five months - students; seven months - tutors.

Components:

Personnel: Master teachers supervised the centers and trained the tutors, but did not teach. Grade school graduates served as clerical aides.

Curriculum: remedial reading

Strategy: High school students were paid an hourly wage to tutor elementary school students in reading and assist them with homework; it was assumed that both tutors and students would benefit.

Environment: low to moderate structure

Materials: Commercially available but generally not used in regular classrooms.

Pupil-Teacher Ratio: 1:1

Training: Tutors trained using specially developed manual during a two week orientation period and weekly Monday workshops.

Parent Involvement: none indicated

Tests Used: New York Tests of Growth in Reading (Students); Iowa Silent Reading (Tutors)

Design and Results: Pre-post design. Performance of both students and tutors was significantly better than control group and national norms.

SUMMER UPWARD BOUND
Terre Haute, Indiana

Title I Support: No

Context: Urban

Target Group Characteristics

Number Served: 76

Dates: Summer 1966

Age or Grade Range: tenth grade

Ethnic Group: 55 percent Black, 45 percent white

Other Pupil Characteristics: Unmarried; college potential as judged by parents and counselors; high school grade point average of 2.17.

Project Characteristics

Measured Cognitive Objectives: Improvement in performance on ability tests in reading, math, and abstract reasoning.

Facilities: laboratory school

Treatment Duration: All day, daily for eight weeks of summer.

Components:

Personnel: Ph.D. director; full-time counselor supervised testing and dorm counselors; resident dorm counselors and tutors were college students.

Curriculum: Developmental and remedial language arts, math, study skills.

Strategy: Provided "highly" structured innovative program of academic and extracurricular activities to students living in residence on college campus in the hope of motivating them to continue their education.

Environment: highly structured

Materials: Some commercially available, others developed locally.

Pupil-Teacher Ratio: none given

Training: none indicated

Parent Involvement: none indicated

Tests Used: Differential Aptitude Test

Design and Results: Pre-post design. Gain scores statistically significant.
